Exhibit A

# UNITED STATES DISTRICT COURT NORTHERN DISTRICT OF CALIFORNIA SAN FRANCISCO DIVISION

# IN RE UBER TECHNOLOGIES, INC., PASSENGER SEXUAL ASSAULT LITIGATION

Case No. 3:23-md-03084-CRB

## REPORT OF BRUCE WEINER

This Report relates to the following Wave 1 Cases:
Case No. 24-cv-7940 (B.L.)
Case No. 24-cv-7821 (A.R.2)
Case No. 24-cv-7019 (LCHB128)
Case No. 23-cv-6708 (Dean)
Case No. 24-cv-4900 (WHB 832)

**SEPTEMBER 26, 2025** 

# I. INTRODUCTION

- 1. I, Bruce Weiner, am an expert in technology, product development, and software engineering with 37 years of experience applying industry-standard design, testing, and post-deployment evaluation methods to determine whether technology products and features achieve their stated objectives. My career includes leading initiatives for Fortune 100 companies and government agencies, where I directed cross-functional teams to design, implement, and validate technology products and features intended to address specific operational goals, and to evaluate their real-world effectiveness, including safety through controlled internal studies and post-launch performance tracking. A summary of my qualifications is set forth below, and further reflected in my Curriculum Vitae, attached as Exhibit A to this report.
- 2. I have been retained by counsel for Plaintiffs in this matter. I am being compensated at \$500.00/hour for all expert work. My compensation is not dependent on, and in no way affects, the substance of my statements and opinions herein. I have no financial interest in the outcome of this case, and my opinions are not contingent on any case outcome.
- 3. I reserve the right to supplement and amend this report based on additional materials and/or information made available to me.
- 4. The list of materials I have considered in formulating my opinions herein is set forth in Exhibit B.

## II. SUMMARY OF QUALIFICATIONS

5. I received my Bachelor of Science in Electrical Engineering and Computer Science, magna cum laude, from Princeton University in 1988. Since that time, I have worked in the technology, travel, and financial industries. I was responsible for making decisions over product prioritization and software development of complex public-facing products and services. This

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included products that incorporated multiple safety-related features, including physical safety (safety from assault) as applicable to this case.

- 6. From 1988 to 1990, I was an analyst at Booz Allen Hamilton, where I worked for clients primarily in the financial services space. I gained hands-on technology development experience from working with clients such as American Express ("Amex") that used innovative travel management and corporate card technology.
- 7. Between 1991 and 1994, I served in a series of roles at Amex, my last being Vice President of Technology. My first assignment involved bringing the technologies and concepts of the travel management business to the European market, based in the UK. I managed a Product Development Life Cycle ("PDLC") in which features and issues had to be prioritized and sequenced for consumer-facing rollout. PDLC, in the context of software engineering, refers to the series of stages and decisions a product goes through from initial idea to marketing release and ongoing development. The PDLC is an iterative process that involves many skills and stakeholders in an organization, including research and development, marketing, design, and production.
- 8. My next major assignment was as Director of Marketing in the New York office. There, I worked to bring the Membership Rewards loyalty program to Amex's Corporate Card and Business Travel customers. Membership Rewards had a successful launch in the consumer market and was ready to extend to additional markets. In that role, I managed a product backlog of features and issues through the Software Development Life Cycle ("SDLC"). The SDLC is a methodology that outlines the steps for designing, developing, testing, and maintaining software. It is a

<sup>&</sup>lt;sup>1</sup> American Express had just over 25 million US cardmembers during my tenure and the software we developed supported the full Domestic/U.S. cards-in-force. American Express 1995 10-K Filings. Securities and Exchange Commission ("SEC"). Sec.gov. [accessed 2025 Aug 25]. <a href="https://www.sec.gov/Archives/edgar/data/4962/0000004962-94-000010.txt">https://www.sec.gov/Archives/edgar/data/4962/0000004962-94-000010.txt</a>

systematic approach that helps ensure software is created efficiently and consistently and meets customer expectations.

- 9. Between 1994 and 1998, I was a Principal at First Manhattan Consulting Group ("FMCG"). FMCG at the time was a management-consulting firm contracted by financial services firms. I focused on technology assignments in retail banking, credit cards, call centers, and insurance products. In this role, I worked for a few banks on software products with features focused on the physical safety of customers engaging with ATM's, especially late at night and in high-risk areas. I was frequently asked to assist clients in decision-making and trade-offs in managing feature and issue resolution in the PDLC and SDLC across large, complex financial services institutions.
- 10. Between 1998 and 1999, I was Chief Technology Officer at Brierley & Partners, a direct marketing ad agency focusing on loyalty programs. I oversaw the technology development of online/email marketing programs and reward redemption options for their loyalty program clients. There, I had the opportunity to expand my skills in PDLC and SDLC management to additional industries and across large and complex organizations around the world. One of my most significant clients was UAL Loyalty Services, the division of United Airlines, which ran United's online travel sales engine, United.com, and all of United's loyalty programs, including Mileage Plus—my experience with Internet-based applications and platforms developed in this role.
- 11. Between 2000 and 2002, I was a Principal and Chief Technology Officer at Synetro Group. Synetro Group is a private equity firm and a venture accelerator that supported and consulted for startups in the Chicago area. In that role, I continued to serve UAL Loyalty Services on a contract basis. I served as the Launch Chief Technology Officer for a series of startups. At

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InsuranceNoodle.com, one of the Synetro Group's startup clients, I was part of a team that developed a system for the online delivery of insurance that was patented with a priority date of 12/28/2001 – U.S. Patent No. 7,203,734 B2.

- 12. Between 2002 and 2005, I worked in two consecutive roles for the United Airlines organization. First, I was the Vice President and Chief Technology Officer for UAL Loyalty Services. United formed UAL Loyalty Services with the goal of creating a separate public company by bringing its revenue streams, loyalty, and online travel technologies/patents to the public market. In that role, I managed a team of 90 software developers, architects, and project managers building and maintaining the systems that ran their loyalty and online travel booking businesses, responsible for their PDLC and SDLC.
- In this role, I re-negotiated over 300 executory contracts focused on technology in the airline and loyalty spaces. I managed the redesign and re-architecture of United.com through its PDLC and SDLC to a successful launch. I worked on pilot and flight attendant-focused products that required balancing feature development with operational requirements, including personal safety requirements. One of those products matched pilots and flight attendants with safe and appropriate transportation and lodging, taking into account gender matching and locations in late-night, high-crime areas.
- 14. From 2005 to 2008, I was a Managing Director at Logicsourcing, LLC, a subsidiary of Novantas, LLC. Logicsourcing, LLC, was formed as I joined the Novantas family to take the

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<sup>&</sup>lt;sup>2</sup> United Airlines carried 67 million passengers in 2005 for a total of 114 billion mainline revenue passenger miles. United Airlines 2005 10-K Filings. Sec.gov. [accessed 2025 Aug 25]. <a href="https://www.sec.gov/Archives/edgar/data/100517/000010051706000021/ualtenk.htm">https://www.sec.gov/Archives/edgar/data/100517/000010051706000021/ualtenk.htm</a>

tools and methods developed at Novantas in the financial services industry to the travel and loyalty industries. In that role, I managed teams of consultants focused on technology software development, contract negotiation, and acquisition due diligence-related issues. At Novantas, I supported a client in the PDLC to launch an online high-yield deposit product into the core deposit banking products of the time.

- During that period, Weiner.net served as a management consulting firm and provided guidance to travel and loyalty program industry providers. I focused on bridging the gap between business needs and technical solutions. In that role, I served as the launch Chief Technology Officer of three startups during their early years. I focused on software development and infrastructure/operations configuration by leveraging modern cloud-based solutions. I also worked on some of the earliest phone applications for travel and financial services providers. I helped develop applications that were included when the Apple App Store and the Android Market launched in 2008.<sup>3</sup>
- 16. I have worked for the Federal Reserve Bank of New York ("NY Fed")<sup>4</sup> since late 2012. My current title is Vice President and Chief Product Owner for the Markets Transformation Program. In this role, I am responsible for overseeing the PDLC and SDLC for all NY Fed technology products used in the implementation of U.S. monetary policy and the customer banking services provided to foreign central banks holding U.S. dollar assets.<sup>5</sup> My responsibilities include

<sup>&</sup>lt;sup>3</sup> The Android Market was later rebranded as Google Play in 2012.

<sup>&</sup>lt;sup>4</sup> The views and testimony I provide are my own and are not related to my employment at the NY Fed. The NY Fed has no stance on this litigation.

<sup>&</sup>lt;sup>5</sup> The systems I oversee at The NY Fed move anywhere between tens of billions of dollars to trillions of dollars daily to implement monetary policy and operate extensive Fedwire and account services of dollars for foreign official and international accounts of over 350 billion dollars. Overnight reverse repurchase Agreements: Treasury Securities Sold by the Federal Reserve in the Temporary Market Operations. Federal Reserve Bank of St. Louis. [accessed 2025 Aug 25]. <a href="https://fred.stlouisfed.org/series/RRPONTSYD">https://fred.stlouisfed.org/series/RRPONTSYD</a> (showing overnight reverse repurchase agreements); Federal Reserve Balance Sheet: Factors Affecting Reserve Balances – H.4.1. The Federal Reserve. [accessed 2025 Aug 25]. <a href="https://www.federalreserve.gov/releases/h41/current/">https://www.federalreserve.gov/releases/h41/current/</a> (showing the H.4.1 table 1)

establishing, enforcing, and continuously improving the PDLC and SDLC practices in alignment with widely accepted industry standards and regulatory expectations.

- 17. My team of product leaders and I develop and manage product backlogs, prioritize enhancements, and oversee new product development and maintenance in accordance with these standards. I am expected to maintain subject-matter expertise in software development practices, including Agile methodologies, DevOps principles, and compliance frameworks, by engaging in ongoing professional development, industry research, and participation in national and international technology conferences.
- 18. Concurrent with my role at the NY Fed, I have worked as a technology expert witness and litigation consultant through the firm I own, Weiner.net LLC. In this capacity, I have served as a testifying and consulting expert since 2011 in almost two dozen matters across federal and state courts, arbitration panels, and administrative proceedings to provide expert analysis and testimony on software development practices, PDLC, and technology industry standards. My litigation expert opinions have spanned a wide range of industries, including financial services, air travel, Internet commerce, hospitality, consumer credit, and mobile app development. I have been retained to opine on software development practices, industry standards, product lifecycle methodologies, platform architecture, and related technology management issues. This experience includes matters that involved Fortune 100 companies, startups, and government agencies. I have testified in both civil and criminal proceedings.
- 19. I actively maintain my industry and technical expertise. I have been a member of the Association for Computing Machinery and the Institution of Electrical and Electronics Engineers since 2018. Additionally, I have been a Certified Advanced Scrum Product Owner by the Scrum Alliance since 2015. I am an active participant in industry events and conferences like

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the recent Gartner IT Symposium/Xpo on October 21-24, 2024, which brings CIOs and IT executives together on the future of technology and business, and the upcoming Sibos 2025, a premier global financial services conference organized by SWIFT in Frankfurt (29 September to 2 October 2025). Under the theme, "The Next Frontiers of Global Finance," Sibos 2025 will convene technology, product, and business leaders to examine how advances in digital payments, AI, cybersecurity, and interoperability are reshaping product ecosystems, regulatory compliance, and lifecycle governance across industries. I will also be speaking at a fireside chat during the event.

- 20. I have published two articles:
  - a. <u>Listening to Customers Via New Research Techniques is Key to Becoming</u>
     a <u>Marketing-Driven Bank</u>, American Banker's Financial Services
     Marketing, Spring 1998.
  - <u>Tailoring A Custom Fit: New Ideas Tailor-Made for Our Cardmembers</u>,
     Citibank Today, Fall 1997.
- 21. I have served as a testifying expert in the following cases in the last 4 years:
  - a. Amber.io, Inc. d/b/a Two Tap, v. 72Lux, Inc. d/b/a Shoppable.com, Case No: IPR2020-00015, Jurisdiction: Patent Trial and Appeal Board; Expert report.
  - b. ConnectOne Bankcorp, Inc., et al v. Star City Bankshares, Inc. and Connect
    Bank, Case No: 5:19-cv-159-LPR, United States District Court for the
    Eastern District of Arkansas; Expert report, deposition.
  - c. *Pilot Union v Global Software Company*, Case No: 23-024, Jurisdiction: National Academy of Arbitrators; Expert report, trial testimony.

- d. Kathleen Hollis v Realpage, Inc., Case No: 1:23-cv-02247-MLB-LTW,
   United States District Court for the Northern District of Georgia.
- e. Newport Hotel Group, LLC v. InfoFusion, LLC and G. Sky Tougas, Case
  No: NC-2020-773, Rhode Island Superior Court; Expert report, deposition.
- f. Air Canada and Aeroplan, Inc. v. Localhost, LLC, Case No: 23-2277-GBW,
  United States District Court for the District of Delaware.

# III. ASSIGNMENT AND SCOPE OF OPINIONS

- 22. Plaintiffs' counsel asked me to provide my expert opinion on Uber's product development methodology and whether it met recognized product development and software lifecycle industry standards. Specifically, they asked how safety-related objectives—such as the prevention of Sexual Assault<sup>6</sup> and Sexual Misconduct<sup>7</sup>—were considered, prioritized, and implemented within that framework. Counsel asked me to address these questions:
  - a. was Sexual Violence a foreseeable safety risk in the context of Uber's

    Product Development Lifecycle and industry standards ("Foreseeable
    Risk"); and, if applicable, when did Uber document the risk;

<sup>&</sup>lt;sup>6</sup> Sexual Assault: "Based on the Sexual Misconduct and Violence Taxonomy, which provides a structure of consistent classification of reports of sexual violence, sexual assault is defined as any physical or attempted physical contact that is reported to be sexual in nature and without consent. This can include incidents within the taxonomy ranging from attempted touching of a non-sexual body part (for example, a user trying to touch a person's shoulder in a sexual/romantic way) to non-consensual sexual penetration." Uber. 2021-2022. US Safety Report [Brochure] <a href="https://uber.app.box.com/s/lea3xzb70bp2wxe3k3dgk2ghcyr687x3?uclick\_id=d5f4f5df-dedc-4082-89d4-6b59ef6b8cf3">https://uber.app.box.com/s/lea3xzb70bp2wxe3k3dgk2ghcyr687x3?uclick\_id=d5f4f5df-dedc-4082-89d4-6b59ef6b8cf3</a> at pg. 24

<sup>&</sup>lt;sup>7</sup> Sexual Misconduct: The Sexual Misconduct and Violence Taxonomy defines sexual misconduct as non-physical conduct (verbal or staring) of a sexual nature that happens without consent or has the effect of threatening or intimidating the person against whom such conduct is directed. This can include incidents within the taxonomy ranging from staring/leering to verbal threat of sexual assault." Uber. 2021-2022. US Safety Report [Brochure] <a href="https://uber.app.box.com/s/lea3xzb70bp2wxe3k3dgk2ghcyr687x3?uclick\_id=d5f4f5df-dedc-4082-89d4-6b59ef6b8cf3">https://uber.app.box.com/s/lea3xzb70bp2wxe3k3dgk2ghcyr687x3?uclick\_id=d5f4f5df-dedc-4082-89d4-6b59ef6b8cf3</a> at pg. 24

- b. did Uber's Product Development Lifecycle include adequate attention and prioritization to "Safety Features" consistent with application development standards ("PDLC Standards");
- c. did Uber have the technical ability to use its readily available collected data and/or collect readily available data that could assess the relative risk of sexual assault and/or sexual misconduct ("SA/SM") on a potential trip consisting of a potential driver and potential rider ("Uber's Technical Relative Risk Assessment Capability") and to utilize that data to make safer matches of drivers and passengers; and, if applicable, when did Uber have the technical ability and did Uber optimize that technical ability;
- d. did Uber have the technical ability to employ audio, video, and image recording to address and mitigate the potential for Interpersonal Conflict ("IPC")<sup>9</sup> including SA/SM ("Uber's Technical IPC Capturing and Deterring Capability"); and, if applicable, when did Uber have the technical ability;
- e. did Uber have the technical ability to match women riders with women drivers ("Uber's WtoW Capability"); and, if applicable, when did Uber have that technical ability;

<sup>&</sup>lt;sup>8</sup> For this report, "Safety Features" is defined as the set of capabilities Uber designed and brought to market that it referenced as having an impact on incidents or perception of safety, which I enumerate and describe in Exhibit C.

<sup>&</sup>lt;sup>9</sup> Interpersonal Conflict: "An interpersonal conflict (IPC) can be defined as a disagreement between two individuals or subgroups involving significant resentment and discontent. IPCs continue to happen on the platform; they have been hard to prevent and result in incidents of the highest severity levels" UBER\_JCCP\_MDL\_001102384 at 001102387. Moreover, Uber's documents state that sexual assault represented the majority of its serious interpersonal conflict rate. Deposition of Rebecca Payne (Apr 2, 2025) Exhibit 2527 (Bates No. UBER\_JCCP\_MDL\_001755017). See also Deposition of Valerie Shuping (Apr 17, 2025), Exhibit 601 (Bates No. UBER\_JCCP\_MDL\_000258743), stating that 91% of serious IPCs were sexual assaults.

- f. what data did Uber collect from driver applicants ("Driver-Applicants Collected Data");
- g. what testing did Uber conduct on its Safety Features to determine if it meaningfully mitigated the risk of SA/SM ("SA/SM Feature Testing"); and,
- h. whether Uber's Post Reporting Features—i.e., the features riders could use to report Sexual Violence<sup>10</sup> incidents during or after trips—together with Uber's use of internal reporting records and its available GPS/telemetry capabilities, were designed, implemented, and governed consistent with recognized product development and software lifecycle standards in risk-sensitive applications. ("Uber Post Reporting Features").

# IV. METHODOLOGY

23. To formulate my opinions in this case, I utilized the same methodology as in my 37 years of industry experience and 14 years of litigation expert work in technology product development, software engineering, and lifecycle governance. I applied this methodology to review Uber's internal records, compare its processes to recognized lifecycle standards, and

<sup>&</sup>lt;sup>10</sup> The term "Sexual Violence" used herein is an umbrella term to describe any unwanted or non-consensual sexual acts behavior, i.e., a combination of the Sexual Assault and Sexual Misconduct terms defined above, intended to be inclusive of all categories of Sexual Assault and Sexual Misconduct as defined in Uber's Global Safety Taxonomy. See UBER-MDL3084-000368184, at 000368187-8. The categories of Sexual Assault are: (1) Non-Consensual Sexual Penetration, (2) Non-Consensual Kissing - Sexual Body Part, (3) Non-Consensual Touching - Sexual Body Part, (4) Attempted Non-Consensual Sexual Penetration, (5) Non-Consensual Kissing - Non-Sexual Body Part, (6) Non-Consensual Touching - Non-Sexual Body Part, (7) Attempted Kissing - Sexual Body Part, (8) Attempted Touching - Sexual Body Part, (9) Attempted Kissing - Non-Sexual Body Part, (10) Attempted Touching - Non-Sexual Body Part. The categories of Sexual Misconduct are: (11) Masturbation, (12) Verbal Threat of Sexual Assault, (13) Self-Touching / Indecent Exposure, (14) Soliciting Sexual Act(s), (15) Indecent Photographing / Videography Without Consent, (16) Displaying Indecent Material, (17) Comments or Gestures - Explicit Comments, (18) Comments or Gestures - Explicit Gestures, (19) Comments or Gestures - Flirting, (20) Comments or Gestures - Comments About Appearance, (21) Comments or Gestures - Asking Personal Questions, (22) Staring or Leering.

evaluate whether features—including those aimed at safety outcomes—were tested and measured against their stated objectives once deployed.

- 24. This methodology mirrors the generally accepted structured analyses adopted across large-scale technology-driven organizations including specifically organizations where I have executed such analyses: establish clear questions, apply experience and recognized frameworks, gather and review extensive documentary evidence, and measure processes against articulated goals and standards.
- 25. The approach is also consistent with the methodology that underlies a metaanalysis. <sup>11</sup> I began by framing questions, then established inclusion and exclusion criteria, gathered documentation comprehensively, organized findings in relation to those questions, and synthesized conclusions across multiple sources of information.
- 26. Based on counsel's assignment, I sought to determine the answers to the questions in the section Assignment and Scope of Opinions.
- 27. I established explicit criteria to identify relevant documentation. My inclusion criteria started with my experience in software development for industries that had foreseeable safety risks, including (a) software for United Airlines to handle the logistics for flight attendants and pilots during lodging and transportation assignments which took into account physical safety risks including theft and assault, and (b) banking systems mitigating risks to ATM customers in danger of theft and assault risk in late night or high crime physical locations. I included materials

Meta-analysis is a recognized, peer reviewed methodology used across scientific disciplines to systematically synthesize documentation using structured, transparent frameworks. By applying a meta-analytic approach to Uber's 2+ million-document production and testimony, I ensure that my analysis is systematic, objective, and reproducible—a methodology remarkably consistent with practices outlined in peer-reviewed literature and well-suited for expert report construction.

bearing on planning, risk identification, validation/verification, experimentation/measurement, and safety outcomes. I excluded documents irrelevant to governance or lifecycle processes.

- My personal experience was augmented by documented international standards, <sup>12</sup> 28. Organization for Standardization ("ISO"), International Electrotechnical International Commission ("IEC"), <sup>13</sup> and Institute of Electrical and Electronics Engineers ("IEEE"), which I have applied in practice throughout my career and have observed as generally accepted within technology, financial services and transportation industries.
- Herein, when I refer to "industry standards," I am using the term in its broad and 29. generally accepted sense to include three categories of benchmarks:
  - international standards bodies (e.g., ISO/IEC, IEEE), which provide a. consensus-based frameworks for lifecycle management, risk management, and quality assurance that are widely recognized across technology domains;
  - b. structured practices from other safety-critical industries such as aviation, finance, and transportation, where technology design decisions have direct consequences for human safety and thus provide relevant comparators for governance rigor; and,

<sup>&</sup>lt;sup>12</sup> ISO and IEEE both employ structured, multi-phase processes to develop standards: initiated by proposals (NWIP/PAR), developed by expert working groups, iterated through drafts, socialized via comment and consensus mechanisms, formally reviewed, and approved by governing boards. While ISO emphasizes national body participation (international consensus), IEEE emphasizes individual and organizational participation (technical community consensus). Both enforce rigorous documentation, review, and maintenance cycles to ensure standards remain relevant and credible. Developing Standards. ISO. [accessed 2025 Sep 6]. https://www.iso.org/developingstandards.html; How are Standards Developed? IEEE SA. [accessed 2025 Sep 6]. https://standards.ieee.org/beyondstandards/how-standards-are-made/

<sup>13</sup> When a standard is labeled ISO/IEC it means the two organizations jointly developed and maintain it through a shared technical committee

- peer practices and benchmarks from large-scale consumer technology c. companies, particularly where they have publicly reported investment levels, structured safety programs, or rapid rollouts of risk-mitigation features.
- 30. Collectively, these sources establish what I mean by "industry standards" herein: a combination of codified frameworks and practical benchmarks that, taken together, define the expectations for risk-based governance in software product development where foreseeable human safety risks are at stake.
- 31. The primary documented international standard I referenced was ISO 31000, which establishes industry standards for enterprise risk management. 14 I applied it to assess how Uber identified, analyzed, and addressed risk factors—including those affecting user safety throughout its software and product decision-making processes. Uber's documents reference ISO 31000 and its approach in a safety risk context. <sup>15</sup> For instance, in Uber's Risk Register Discussion PowerPoint from January 2020, Uber stated the following: 16

#### Risk

- ISO 31000 Risk Management definition the effect of uncertainty on objectives (positive or negative)
- Safety definition the likelihood that a hazard will result in a given consequence when exposed to the hazard

<sup>&</sup>lt;sup>14</sup> The UN, UMass, and CBRE all reference ISO 31000 in public documents as following the ISO standard. United Nations. 2019. Misconduct Risk Management Tools [Report]. 2019 Sep [accessed 2025 Sep 8]. https://conduct.unmissions.org/sites/default/files/misconduct\_risk\_mngt\_tools\_consolidated\_vf\_24\_09\_2019.pdf; of Massachusetts. 2021. Enterprise Risk Management University Report [Report]. https://www.umassp.edu/sites/default/files/publications/FY20%20ERM%20Report FINAL%201.0 0.pdf#:~:text=i  $\underline{nstitutions\%20of\%20higher\%20education, transparency\%2C\%20integration\%2C\%20and\%20continual\%20improve}$ CBRE. Report https://mediaassets.cbre.com/-2023. Corporate Responsibility [Report]. ment; /media/project/cbre/dotcom/global/about/corporate-responsibility/report-2023/cbre-2023-corporate-responsibilityreport.pdf?rev=b2a1a75ea1ae400dba1e1ea9cb9ef6fe.

UBER JCCP MDL 002992877, UBER JCCP MDL 003001211, UBER JCCP MDL 004522855, UBER\_JCCP\_MDL\_005680239 <sup>16</sup> UBER\_JCCP\_MDL\_002992877

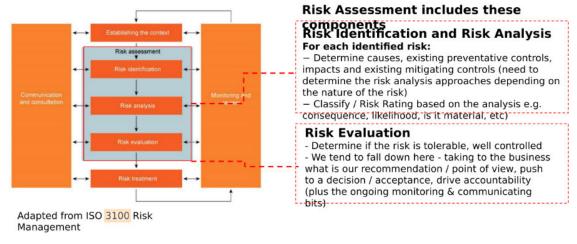
32. In a 2018 Safety Risk Management 101 presentation that cited this standard, Uber notes:17

# Safety must be a value. But it will only remain a priority if the business environment supports it...

- Additionally, in an internal email from January 2020, Sean McIntyre wrote: 18 33.
- In an ideal world Uber would have an enterprise wide risk framework (EWRM) that provides a consistent and standardised risk language, risk assessment tool for how we assess and quantify risk and a reporting process so we can discuss and compare different risk issues / types / events across our global operations and report internally and externally on the most material risks facing the business.
- 34. Uber even referenced ISO 31000 in detail in a 2023 presentation titled "2023 H1 Safety LT Sync." 19

Safety LT Summit - Mexico

# Risk Management 101 - The main bits



Uber I Safety Management System

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 $<sup>^{17}\,</sup>UBER\_JCCP\_MDL004522855$ 

<sup>&</sup>lt;sup>18</sup> UBER JCCP MDL 005680239

<sup>&</sup>lt;sup>19</sup> UBER JCCP MDL 001731737

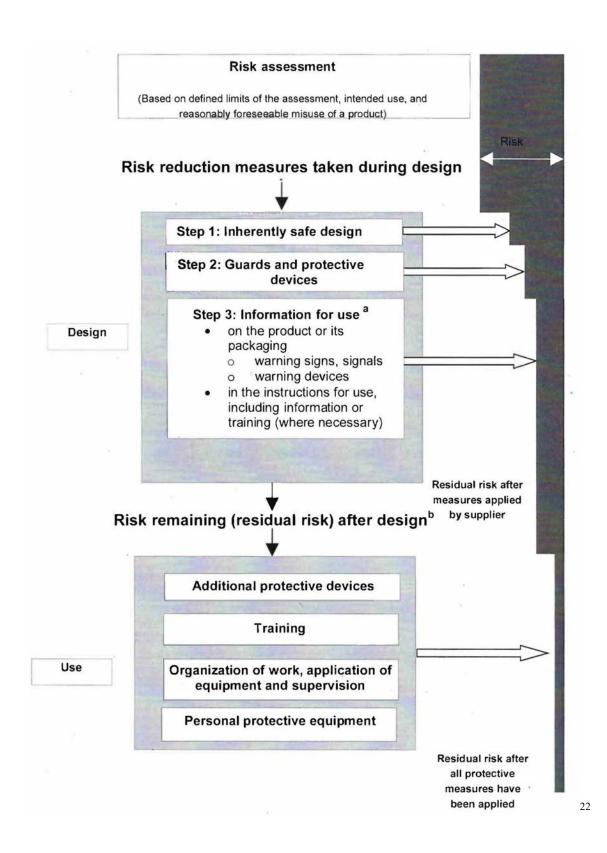
<sup>&</sup>lt;sup>20</sup> UBER\_JCCP\_MDL\_001731737, which references ISO 3100, which can only be ISO 31000.

- 35. I additionally considered and applied three PDLC/SDLC-relevant ISO/IEEE standards:<sup>21</sup>
  - a. ISO/IEC 12207:2017, the international standard that defines lifecycle processes for software development and maintenance. I used this framework to evaluate how Uber structured and executed its Product Development Lifecycle (PDLC) and whether safety-critical features were correctly identified, developed, and implemented.
  - b. ISO/IEC 25010:2023, this standard defines the quality attributes of software products, including reliability, security, and functional suitability. I used these criteria to evaluate whether Uber's mobile application features met acceptable quality benchmarks, particularly in their ability to reduce or mitigate personal safety risks to riders.
  - c. IEEE 730:2014 specifies requirements for software quality assurance planning. I used the standard to evaluate Uber's planning and validation procedures for features intended to address sexual assault and related safety concerns within its technology platform.
- 36. I also considered the ISO/IEC 51:2014 Guide, which presents requirements and recommendations for those who are drafting safety standards and documents that the Guide applies to "any safety aspect related to people, property or the environment, or to a combination of these."

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<sup>&</sup>lt;sup>21</sup> Other ISO/IEC/IEEE standards are mentioned in the report when there is a particular point that resonates with my professional experience. The ISO Guide focused on requirements and recommendations for those drafting safety standards is outlined below.

ISO/IEC 51:2014. Section 6.3 addresses Risk Reduction and Section 6.3.4 37. provides a "three-step method" sometimes referred to as a "hazard hierarchy" or "hierarchy of controls." It outlines the necessary actions during the design phase and provides supplemental measures for the use phase, as depicted in the visual below.



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<sup>&</sup>lt;sup>22</sup> ISO/IEC Guide 51:2014 – Safety aspects – Guidelines for their inclusion in standards. (3d Ed., 2014).

38. Importantly, the Guide Section 6.3.5 enumerates the order of priority for risk reduction, where the focus is first on "inherently safe design," then on implementation of "guards and protective devices," and lastly to provide information for end users. The guide is not only focused on what's most effective at preventing the risk or hazard, but also recognizes process integrity, where it gives designers and engineers a clear path to follow for safety.

- 39. Thus, based on my professional experience, and supported by ISO/IEC 51:2014, Uber's actions to prevent sexual assault and sexual misconduct should follow a similar order of priority, where the goal is to prevent sexual assault and sexual misconduct to the extent feasible by designing against the risks that would provide the most effective protection. Subsequently, to guard against the dangers, and lastly, warning against the risk of sexual assault and sexual misconduct where Uber warns riders about the actual risks of sexual assault and sexual misconduct on its platform.
- 40. To evaluate Uber's development and prioritization of safety-related features, I focused on Uber's internal use of Objectives and Key Results ("OKRs")<sup>23,24</sup> as a central organizing framework for goal setting, prioritization, and measurement. My analysis considered:
  - a. whether safety-related objectives were explicitly defined at the organizational and team level;
  - b. how key results are tied to measurable outcomes in safety prevention, as well as safety perception;

<sup>&</sup>lt;sup>23</sup> Doerr J. (2018). Measure What Matters: How Google, Bono, and the Gates Foundation Rock the World with OKRs. Penguin

<sup>&</sup>lt;sup>24</sup> Niven P. R. & B. Lamorte. (2016). Objectives and Key Results: Driving Focus, Alignment, and Engagement with OKRs.

- c. whether Uber used OKRs to track the effectiveness of features intended to mitigate Sexual Violence risks; and,
- d. how safety-focused OKRs compare with other business-driven OKRs (growth, engagement, financial performance).
- 41. I relied on both my direct experience leading OKR-driven programs and published research on OKRs in enterprise governance contexts. Uber's internal OKR documents were therefore a primary focus of my analysis and are referenced throughout my opinions.
- 42. I also considered Agile and Scrum methodologies, as well as Waterfall methodologies, as comparators, given their importance in modern software product development (PDLC). Although these standards are voluntary, they provide structured, consensus-based benchmarks that codify professional practice.
- 43. With access to more than two million documents produced in this case, I employed a staged, systematic search process. First, I conducted broad searches to identify both supporting and opposing documentation for each question that was presented to me in Section III. I then refined searches to focus on the most probative documents. I also reviewed peer-reviewed academic and industry literature relevant to lifecycle risk management, as well as requested and reviewed full deposition transcripts and exhibits for Uber executives and technical personnel whose responsibilities were directly tied to product development and safety decision-making. The process proceeded through the following steps:
  - a. I reviewed Uber's internal planning artifacts, product requirement documents (PRDs), internal studies on the effectiveness of product features, Objectives and Key Results (OKRs), safety performance tracking materials, emails and communications, deposition testimony and exhibits, as well as

Uber's formal litigation filings. This included interrogatory responses, responses to requests for admission, declarations, and Uber's Answer to the Complaint. My analysis, therefore, gave substantial weight to Uber's own representations and internal records, ensuring that in formulating my opinions, I have carefully considered the observations and assessments of Uber personnel who were directly involved with the respective issues.

- b. I organized the findings according to my assignment and mapped the documentation to the specific questions posed. I evaluated them against my own experience in technology product governance, ISO/IEC lifecycle standards, OKR frameworks, and Agile and Waterfall practices.
- c. I synthesized the documentation and reached conclusions regarding whether Uber's processes align with recognized standards. I also reviewed the results of internal studies on Uber's efforts to test safety-focused features and capabilities, seeking documentation of the features that produce the safety outcomes asserted. My conclusions (opinions) are supported by references to Uber's records, deposition testimony, and recognized industry frameworks, and are cited throughout this report.
- 44. My methodology is designed to be testable and repeatable: it includes clearly defined questions, <sup>25</sup> structured criteria, systematic searches across a large document set, integrates multiple documentation types, leverages my industry experience, and benchmarks against

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<sup>&</sup>lt;sup>25</sup> See *supra*-Section III: ASSIGNMENT AND SCOPE OF OPINIONS

recognized standards. This mirrors established practices for structured documentation reviews in both industry and litigation contexts.

- 45. Where Uber's documents referenced "statistical significance" but did not disclose methods or thresholds, I have identified those limitations in the body of this opinion; my conclusions are therefore tied to the company's contemporaneous analyses and the objective content of its planning records, not to undisclosed statistical assumptions.
- 46. My conclusions are limited to the documents, filings, and testimony produced in this matter to date. Should new evidence or testimony become available, I reserve the right to supplement or amend my opinions accordingly.<sup>26</sup>
- 47. The opinions expressed herein are made to a reasonable degree of professional certainty.

## V. CASE BACKGROUND

# A. Overview of the development of phone-based software applications

- 48. I have been involved in the development of phone-based software applications since the late 1980s.
- 49. The earliest phone applications began to appear in the late 1980s and continued development through the late 1990s. They were simple programs designed for feature phones or Personal Digital Assistants ("PDAs"), often built into the device or installed via limited methods like infrared transmission.

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<sup>&</sup>lt;sup>26</sup> I did not have access to safety or other feature business case documents, feature level development budgets, resource allocation records, or return on investment analyses. These are materials I would normally review when assessing product development governance and prioritization.

- 50. One of the most notable PDAs was the IBM Simon<sup>27</sup> in 1993, which had built-in apps like a calendar, address book, calculator, and note pad. Simon did not support app downloads; everything was preloaded.
- 51. Palm Pilots<sup>28</sup> and Pocket PCs<sup>29</sup> had downloadable apps that were transferred via a desktop sync between 1996 and 2000. These included apps such as games, productivity tools (*e.g.*, datebook, memo pad), and finance software.
- 52. In 1999, NTT introduced DoCoMo's i-mode.<sup>30</sup> This allowed users to access weather, email, news, and games on mobile phones via a limited web-based platform. With over 34 million active subscribers, it was one of the world's most successful mobile Internet services of its time.
- 53. Between 2000 and 2008, feature phones<sup>31</sup> began to introduce phone app ecosystems to the phone marketplace. Java ME (J2ME) was introduced in 2000 for phones from Nokia, Motorola, and Sony Ericsson. Apps were downloaded via early mobile web (WAP). Games<sup>32</sup> like Snake, Tetris, and Space Impact were popular. Blackberry introduced one of the first sets of

<sup>&</sup>lt;sup>27</sup> Simon History. [accessed 2025 May 11]. https://simoneer.github.io/history/

<sup>&</sup>lt;sup>28</sup> Luo J. Portable Computing in Psychiatry. CAN. J. PSYCHIATRY, 2004; 49(1):24-30 <a href="https://journals.sagepub.com/doi/pdf/10.1177/070674370404900104">https://journals.sagepub.com/doi/pdf/10.1177/070674370404900104</a>

<sup>&</sup>lt;sup>29</sup> Kho A., Henderson L.E., Dressler D.D. et al. Use of handheld computers in medical education. J GEN INTERN MED, 2006; 21:531–537. https://doi.org/10.1111/j.1525-1497.2006.00444.x

<sup>&</sup>lt;sup>30</sup> MacDonald D. J. NTT DoCoMo's i-mode: developing win-win relationships for mobile commerce. Mobile commerce: technology, theory, and applications (2003). IGI Global, USA, 1–25. <a href="https://dl.acm.org/doi/10.5555/766975.766977">https://dl.acm.org/doi/10.5555/766975.766977</a>

<sup>&</sup>lt;sup>31</sup> Fertalj K, Horvat M. Comparing Architectures of Mobile Applications. arXiv:cs/0703041v1 [cs. OH]. 2007. [accessed 2025 Aug 15]. http://arxiv.org/abs/cs/0703041

<sup>&</sup>lt;sup>32</sup> Evstafev E. The birth of mobile gaming: Java edition — from java 1 to Príncipe Persih: A journey through early mobile games. Medium. 2024 Apr 2 [accessed 2025 Aug 15]. <a href="https://medium.com/%40chigwel/the-birth-of-mobile-gaming-java-edition-from-java-1-to-pr%C3%ADncipe-persih-a-journey-through-early-0b0204c3a858">https://medium.com/%40chigwel/the-birth-of-mobile-gaming-java-edition-from-java-1-to-pr%C3%ADncipe-persih-a-journey-through-early-0b0204c3a858</a>

targeted apps for business users beginning in 2002.<sup>33</sup> Apps were popular across industries, with some key examples that I used professionally being:

- a. Finance: Bloomberg Mobile, secure trading alerts, mobile banking;
- b. Healthcare: Patient schedule viewers, HIPAA-compliant secure email;
- c. Law & Consulting: Time tracking, document review (PDFs); and,
- d. Field Service: Inventory lookup, job ticketing, custom work orders.
- 54. The launch of Apple's App Store and the Android Market in 2008 revolutionized mobile software by creating centralized platforms where developers of any size could distribute apps directly to consumers. A 2023 United States Department of Commerce study<sup>34</sup> described how these app stores expanded access to a global market of enabled devices. By 2024, the two ecosystems represented more than 2.2 billion Apple devices<sup>35</sup> and 3.3 billion Android OS users<sup>36</sup> worldwide.
- 55. The rapid growth of iPhone and Android apps benefited from the PDLC and SLDC standards that were applied:
  - a. Centralized App Stores: Rapid scaling of mobile business to consumer ("B2C") apps by lowering publishing barriers and standardizing user acquisition and feedback loops

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Research in Motion Limited 2002 Annual Report [Report]. [accessed 2025 Aug 15] <a href="https://www.annualreports.com/HostedData/AnnualReportArchive/B/TSX BB 2002.pdf">https://www.annualreports.com/HostedData/AnnualReportArchive/B/TSX BB 2002.pdf</a>

<sup>&</sup>lt;sup>34</sup> Competition in the Mobile Application Ecosystem. Department of Commerce. 2023 Feb [accessed 2025 Aug 15]. <a href="https://www.ntia.gov/sites/default/files/publications/mobileappecosystemreport.pdf">https://www.ntia.gov/sites/default/files/publications/mobileappecosystemreport.pdf</a>

<sup>&</sup>lt;sup>35</sup> Apple statistics — users, devices, and revenue. Backlinko. 2025 Mar 31 [accessed 2025 Aug 15]. https://backlinko.com/apple-statistics

<sup>&</sup>lt;sup>36</sup> Elad B. Android statistics 2024 – by market share, revenue generation, country, RAM size and usage. EnterpriseAppsToday. 2024 Feb 26 [accessed 2025 Aug 15]. <a href="https://www.enterpriseappstoday.com/stats/android-statistics.html">https://www.enterpriseappstoday.com/stats/android-statistics.html</a>

- b. Mobile Software Development Kit ("SDK"): Businesses with limited engineering resources could produce high-quality, functional apps quickly
- c. Backend-as-a-service (BaaS) and Cloud APIs: Businesses focused on User interactions, while scalable cloud services handled backend infrastructure
- d. Agile and Lean Methodologies: B2C software became adaptive and usercentric, evolving quickly after releases with constant feedback and wellreasoned prioritization methodologies focused on consumer experimentation.
- 56. In summary, the evolution of phone-based software applications—from rudimentary, device-specific utilities in the 1990s to the globally interconnected, cloud-backed ecosystems of today—has transformed the mobile technology landscape. The combination of centralized distribution platforms, powerful development toolkits, scalable backend infrastructure, and adaptive development methodologies created the foundation for the rapid adoption and ubiquity of mobile apps. This context is important for understanding the technological, business, and regulatory environment in which Uber Technologies emerged and scaled its platform.

# B. Overview of Uber's history

57. In remarks by Travis Kalanick, one of the founders of Uber, at Uber's fifth anniversary, "Back in 2008, Garrett [Clamp - Uber's other founder] and I had a pretty routine problem: we couldn't flag down a cab. We were in Paris, it was freezing, it was dark, and he turned to me and said, "With all the technology available today, why can't we just push a button and get a ride?" Uber didn't begin with any grand ambitions. It began as the answer to that simple

question."<sup>37</sup> Uber was described in a 2016 article in The Economist as "[t]he world's most valuable startup."<sup>38</sup> Uber's appeal to consumers who use it for ride-hailing is that "[it]s app can summon a car in moments."<sup>39</sup>

- 58. To accomplish this, Uber's acknowledged business strategy requires a "massive" supply of drivers, <sup>40</sup> which in 2019 totaled one million drivers in the United States, <sup>41</sup> and in 2024, over 7 million drivers/couriers worldwide." <sup>42</sup> Today, there are between 1 and 2 million drivers in the US. <sup>43</sup> Uber operates in approximately 70 countries and 15,000 cities worldwide. <sup>44</sup> On August 25, 2025, the New York Stock Exchange valued Uber Technologies Inc. as having \$198.45 billion market capitalization. <sup>45</sup>
- 59. By 2008, the core technologies necessary for ride-hailing applications were already widely available and becoming standard on consumer smartphones. GPS had moved from a niche feature to a standard capability with the release of the iPhone 3G and first Android devices, allowing apps to track real-time location data with increasing accuracy. <sup>46</sup> Google Maps, launched in 2005 and adapted for mobile by 2006, had matured to encompass GPS-enabled position

<sup>&</sup>lt;sup>37</sup> UBER\_JCCP\_MDL\_002534310

<sup>&</sup>lt;sup>38</sup> Uberworld. THE ECONOMIST. 2016 Sep 3 [accessed 2025 Sep 7]. <a href="https://www.economist.com/leaders/2016/09/03/uberworld">https://www.economist.com/leaders/2016/09/03/uberworld</a>

<sup>39</sup> Id.

<sup>&</sup>lt;sup>40</sup> Form S-1 Registration Statement. 2019 Apr 11, at 1, 4, 7, 92 <a href="https://www.sec.gov/Archives/edgar/data/1543151/000119312519103850/d647752ds1.htm">https://www.sec.gov/Archives/edgar/data/1543151/000119312519103850/d647752ds1.htm</a>

<sup>&</sup>lt;sup>41</sup> Working Together: Priorities to Enhance the Quality and Security of Independent Work in the United States. Uber Newsroom [accessed 2025 May 11]. <a href="https://ubernewsroomapi.10upcdn.com/wp-content/uploads/2020/08/Working-Together-Priorities.pdf">https://ubernewsroomapi.10upcdn.com/wp-content/uploads/2020/08/Working-Together-Priorities.pdf</a>

<sup>&</sup>lt;sup>42</sup> Khosrowshani D. Only on Uber: Helping to Make Driving and Delivering Safer, Fairer, and Easier. Uber Newsroom. 2024 Sep 17 [accessed 2025 May 11]. <a href="https://www.uber.com/newsroom/onlyonuber24/">https://www.uber.com/newsroom/onlyonuber24/</a>, stating, "There are more than 7 million monthly drivers and couriers on the Uber platform around the world."

<sup>&</sup>lt;sup>43</sup> Deposition of Henry (Gus) Fuldner (March 26, 2025), at 78:21-79:8

<sup>&</sup>lt;sup>44</sup> "Uber Technologies, Inc. 2024 Form 10-K Annual Report." U.S. Securities and Exchange Commission. 2025 Feb 14.

<sup>&</sup>lt;sup>45</sup> Uber Technologies Inc (UBER) stock price & news. Google Finance. [accessed 2025 Aug 22]. https://www.google.com/finance/quote/UBER:NYSE?window=1M

<sup>&</sup>lt;sup>46</sup> Top Technology Breakthroughs of 2008. WIRED. 2008 Dec 25 [accessed 2025 Sep 6]. https://www.wired.com/2008/12/top-technology-breakthroughs-of-2008/

tracking, interactive mapping, driving directions, and live traffic overlays on mobile devices. In November 2007, Google deployed the "My Location" feature, which triangulated users' approximate locations using cell-tower data even when GPS signals were unavailable.<sup>47</sup> By early 2007, Google Maps for mobile was displaying real-time traffic data via color-coded overlays in major U.S. cities.<sup>48</sup> By leveraging these widely-deployed technologies—satellite mapping, GPS, traffic overlays, and location services—UberCab (now Uber) was able to combine mature components with advanced matching and pricing algorithms to create a seamless, real-time ridehailing experience.<sup>49</sup> Uber's innovation lay not in inventing these basic capabilities, but in integrating them at scale to pair riders with drivers and send drivers to riders.<sup>50</sup>

- 60. Uber has described its business strategy this way: "Our strategy is to create the largest network in each market so that we can have the greatest liquidity network effect, which we believe leads to a margin advantage."<sup>51</sup>
- 61. A July 2010 TechCrunch article included a screenshot of the early Uber app UberCab and described the service as an on-demand car service via an iPhone app or SMS. The two-step process was (1) a user sets their location and requests a car service from the application,

<sup>&</sup>lt;sup>47</sup> Google Announces Launch of Google Maps for Mobile with "My Location" Technology. 2007 Nov 28 [accessed 2025 Sep 6]. <a href="https://googlepress.blogspot.com/2007/11/google-announces-launch-of-google-maps">https://googlepress.blogspot.com/2007/11/google-announces-launch-of-google-maps</a> 28.html

<sup>&</sup>lt;sup>48</sup> Google Maps Shows Real-Time Traffic Data. 2007 Feb 8 [accessed 2025 Sep 6]. https://googlesystem.blogspot.com/2007/02/google-maps-shows-real-time-traffic.html

<sup>&</sup>lt;sup>49</sup> App-Powered Car Service Leaves Cabs in the Dust. WIRED. 2011 Apr 5 [accessed 2025 Sep 6]. https://www.wired.com/2011/04/app-stars-uber/; Yan C, Zhu H, Korolko N & Woodward D. Dynamic Pricing and Matching in Ride-Hailing Platforms. 2018 Oct 30 [accessed 2025 Sep 6]. https://papers.ssrn.com/sol3/papers.cfm?abstract\_id=3258234&uclick\_id=5308917f-6eb1-483f-9e9a-78c85965114a

<sup>&</sup>lt;sup>50</sup> Work I did in the early 2000's in industries such as airlines and hotels had long applied dynamic pricing strategies—known as yield or revenue management—after airline deregulation in 1978; airlines began algorithm-based fare optimization in the early 1980s, with hotels and adjacent travel sectors following in subsequent decades to manage perishable inventory in line with consumer demand. Vinod B. Evolution of Yield Management in Travel. J REVENUE AND PRICING MGMT. (2016 Apr 8) 15(3–4):203–11 [accessed 2025 Sep 6]. <a href="http://link.springer.com/10.1057/rpm.2016.15">http://link.springer.com/10.1057/rpm.2016.15</a>

<sup>&</sup>lt;sup>51</sup> Form S-1 Registration Statement. 2019 Apr 11, at 7.

and (2) the app determines the rider's location and sends a request to their network of drivers who happen to be in the area. Once a driver accepts the trip, the rider enters their end location. At the end of the trip, the rider's credit card is charged. At the end of the ride, UberCab asks Uber drivers and riders to rate each other. UberCab was only available in San Francisco at the time of the article.<sup>52</sup>



62. In its 2019 Form S-1 Registration Statement (a required Securities disclosure document for companies going public), Uber described itself as having a "massive…network … in over 700 cities around the world, which "powers movement at the touch of a button for millions, and we hope eventually billions, of people." 53 Uber wrote that if it was "unable to attract or

<sup>&</sup>lt;sup>52</sup> Rao L. UberCab takes the hassle out of booking A car service. TechCrunch. 2010 July 5 [accessed 2025 Aug 25]. https://techcrunch.com/2010/07/05/ubercab-takes-the-hassle-out-of-booking-a-car-service/

<sup>&</sup>lt;sup>53</sup> Form S-1 Registration Statement. 2019 Apr 11, at 7

maintain a critical mass of Drivers... our platform will become less appealing to platform users, and our financial results would be adversely impacted".<sup>54</sup>

- 63. Uber also stated in the SEC filing to offer Uber on the New York Stock Exchange that "[o]ur success in a given geographic market significantly depends on our ability to maintain or increase our network scale and liquidity in that geographic market by attracting Drivers, consumers, restaurants, shippers, and carriers to our platform. If Drivers choose not to offer their services through our platform, or elect to offer them through a competitor's platform, we may lack a sufficient supply of Drivers to attract consumers and restaurants to our platform."<sup>55</sup>
- 64. Uber acknowledged that "for millions of consumers, safety is a barrier" to using Uber. <sup>56</sup> In December 2017, Uber personnel acknowledged that "Perceived safety is the roadblock that keeps riders and drivers off the platform." <sup>57</sup> To improve "perception of safety," <sup>58</sup> Uber had teams responsible for safety communications <sup>59</sup> and expended substantial human and financial resources to disseminate the message that Uber was safe. <sup>60</sup>
- 65. Uber does not consider its drivers to be employees, but rather independent contractors who Uber calls their partners or "earners." Uber repeatedly described its drivers as its "supply." Drivers do not receive a salary; they are paid based on a percentage of the fares

<sup>&</sup>lt;sup>54</sup> Form S-1 Registration Statement, 2019 Apr 11, at 29

<sup>&</sup>lt;sup>55</sup> *Id*.

<sup>&</sup>lt;sup>56</sup> Deposition of Henry (Gus) Fuldner (Mar 27, 2025), at 505:13-17

<sup>&</sup>lt;sup>57</sup> Deposition of Roger Kaiser (Apr 22, 2025), Exhibit 610 (Bates No. UBER\_JCCP\_MDL\_0001574157415 at 000157415.0003)

<sup>&</sup>lt;sup>58</sup> See Deposition of Kate Parker (Feb 14, 2025), citing to Exhibit 126 (Bates No. UBER\_JCCP\_MDL\_000475486-519); Deposition of Gus Fuldner (Mar 27, 2025), at 503:13-19, 361:10-362:2; Deposition of Nairi Hourdajian (Feb 7, 2025), at 178:19-181:18

<sup>&</sup>lt;sup>59</sup> Deposition of Kate Parker (Feb 14, 2025), at 779:22-781:3; Deposition of Tracey Breeden (Mar 13, 2025), at 17:9-18:4

<sup>&</sup>lt;sup>60</sup> UBER000065216

<sup>61</sup> Deposition of Brooke Anderson (May 1, 2025), Exhibit 3214 (Bates No. UBER JCCP MDL 000324315)

<sup>&</sup>lt;sup>62</sup> Form S-1 Registration Statement, 2019 Apr 11, at 3, 8, 9, 29, 37, 41

charged for the rides. Uber does not provide drivers with employee benefits, such as health insurance. 63 Uber generally does not own or provide the vehicle. Uber provides insurance coverage for passengers in the event of an accident, which supplements the driver's insurance. 64

- 66. Since its launch in 2010, Uber's technology has utilized GPS tracking to track the driver's and rider's locations to allow the rider to see the driver's vehicle location and movement towards the pick-up location on a map that is visible on the rider-hailer's mobile app, and to estimate the time of arrival at the rider-hailer's point of origin and point of destination, which will vary based on traffic conditions. <sup>65</sup> Uber's technology utilizes GPS-type data, along with other data as discussed herein, to make matches between Uber drivers and riders, to send drivers to riders, and to track locations of drivers' vehicles, and can perform these functions for each ride, which means Uber performs these functions for each ride simultaneously with other rides on its platform. Uber disclosed in its 2017-18 Safety Report that "[i]n the United States alone, more than 45 rides on Uber happen every second."
- 67. Uber, since 2016, employs a machine learning algorithm to optimize pricing, to match Uber drivers and riders (based on the driver's proximity to the rider and traffic conditions), and to predict arrival times.<sup>67</sup> Uber utilizes numerous software products (JIRA, Bliss, Zendesk, and Flack) to track information about driver performance, reports of Safety incidents (including

**Confidential – Subject to Protective Order** 

<sup>&</sup>lt;sup>63</sup> Gogol F. Complete Guide to Uber Health Insurance Options. Stilt. [accessed 2025 May 11]. <a href="https://stilt.com/">https://stilt.com/</a> <a href="https://stilt.com/">https://stilt.com/</a>

<sup>&</sup>lt;sup>64</sup> Uber: Insurance to Help Protect you. [accessed 2025 May 11]. <a href="https://www.uber.com/us/en/drive/insurance/">https://www.uber.com/us/en/drive/insurance/</a>

<sup>&</sup>lt;sup>65</sup> App-Powered Car Service Leaves Cabs in the Dust. WIRED. 2011 Apr 5 [accessed 2025 Sep 8]. https://www.wired.com/2011/04/app-stars-uber/

 $<sup>\</sup>frac{66}{\text{Uber.}} \quad \frac{2017-2018.}{\text{US}} \quad \text{Safety} \quad \text{Report} \quad \frac{\text{[Brochure]}}{\text{[Brochure]}} \\ \frac{\text{https://www.uber-assets.com/image/upload/v1575580686/Documents/Safety/UberUSSafetyReport_201718_FullReport.pdf}}{\text{PullReport.pdf}}$ 

<sup>&</sup>lt;sup>67</sup> How Trip Inferences and Machine Learning Optimize Delivery Times on Uber Eats. 2018 Jun 15 [accessed 2025 May 12]. <a href="https://www.uber.com/blog/uber-eats-trip-optimization/">https://www.uber.com/blog/uber-eats-trip-optimization/</a>

SA/SM), and for other purposes. Uber uses these products and others to make driver "deactivation" determinations.<sup>68</sup>

68. While this report focuses exclusively on Uber's ride-hailing services, Uber also provides food delivery, courier, and freight transport services.

#### VI. OPINIONS

Opinion 1: It is my opinion that since Sexual Violence between Uber drivers and riders matched by Uber was a foreseeable risk<sup>69</sup>, it should have been explicitly incorporated into Uber's product development lifecycle from its inception, but was not.

- 69. The problem of Sexual Violence was foreseeable during the formation of Uber.

  Travis Kalanick testified:
  - Q. And when did you find first find out that there were factors, high-risk factors like that where more bad things would happen on your platform? A. I mean, this is something in the transportation world you just know immediately.<sup>70</sup>
- 70. Earlier this year, Mr. Kalanick testified as well that safety prevention must be the goal when it comes to foreseeable risks: "Safety should be first focused on preventing incidents vs. responding to them. Responding to incidents is typically not about safety, it's about service. For example, the feature request mentioned in the question doesn't really improve

https://www.linkedin.com/jobs/view/claims-associate-at-uber-4094045656/ (Uber job posting for Claims Associate, specifying as a "preferred qualification" that applicant have "[f]amiliarity with claims systems and tools such as Chronicle, Bliss, JIRA, and Zendesk"); Deposition of Cassandra Hawk (Apr 8, 2025), at 146-47; Deposition of Kayla Whaling (Feb 28, 2025), at 148:17-149:24

<sup>&</sup>lt;sup>69</sup> In the context of product development lifecycle and risk management standards, foreseeability refers to the process of identifying risks that can be reasonably anticipated based on available information, industry experience, or the inherent characteristics of the product or service. My professional experience supported by ISO 31000 frameworks emphasize that foreseeable risks should be identified early, evaluated for potential impact, and incorporated into product design, governance, and mitigation strategies.

<sup>&</sup>lt;sup>70</sup> Deposition of Travis Kalanick (Jul 3, 2025), at 241:8-15

safety. Responding to an accident doesn't make the ride safer, but it does make the rider feel more comfortable once an accident has happened. AND, if someone really needed help immediately following an accident, wouldn't they be better off calling 911?"<sup>71</sup> (emphasis added)

71. That Sexual Violence between Uber drivers and riders matched by Uber was a foreseeable risk, as stated by Mr. Kalanick in his testimony, is corroborated by contemporaneous reports of Sexual Violence in similar settings, specifically in San Francisco, before and in 2008 during Uber's establishment. While Uber acknowledges "there is no data to reliably or accurately compare reports against Uber drivers versus taxi drivers or limo drivers, or Uber versus buses, subways, airplanes or trains," a cursory search found three articles/documents from the San Francisco ("SF") area about Sexual Violence in taxi/limos that pre-dated the launch of Uber. In 1999, a taxi driver was convicted of murdering a female passenger in an incident that involved the passenger agreeing to have sex to help pay the fare. In 2005, a taxi driver was arrested on suspicion of raping one of his female fares. And a SF Taxi Commission report from November

<sup>&</sup>lt;sup>71</sup> Deposition of Travis Kalanick (Jul 3, 2025), at 211:20-213:20, discussing Exhibit 1351 (UBER-MDL3084-45388) (when answering about adding a button to call for help or inform [Uber] of an accident)

<sup>&</sup>lt;sup>72</sup> UBER\_JCCP\_MDL\_000378779; see also UBER\_JCCP\_MDL\_005579332 ("For sexual assault, as you can imagine, we are one of very few companies involved in transportation that share any data related to sexual assault in relation to its business, so external benchmarks in taxis, other rideshare, buses, airlines, etc. are largely unknown. But for example, in 2017 and 2018 Uber disclosed 5,981 incidents of critical sexual assault related to Uber (ranging from sexual touching/kissing to non-consensual sexual penetration) from drivers and riders nationally, across all of Uber's US market. For one comparison, the NYPD received 1,125 complaints of sex offenses in NYC's transit system during the same period (2017 & 2018). But that's just one city, and again, due to reporting differences, methodologies, criminal complaints vs. non-criminal complaints, a direct comparison is incredibly difficult. Please see the US Safety Report for more detail on the Uber metrics. Since roughly 44% of US women and nearly 25% of US men will be the victim of contact sexual violence in their lifetimes, we know these are societal issues that manifest in virtually every form of transportation and public space.")

<sup>&</sup>lt;sup>73</sup> Lee H. Taxi driver sent to mental hospital for murder. Sfgate.com. 2009 Aug 4 [accessed 2025 Aug 24]. <a href="https://www.sfgate.com/bayarea/article/taxi-driver-sent-to-mental-hospital-for-murder-3221341.php">https://www.sfgate.com/bayarea/article/taxi-driver-sent-to-mental-hospital-for-murder-3221341.php</a>

Herel S. Cabbie accused of raping fare. Sfgate.com. 2005 Sep 23 [accessed 2025 Aug 24]. https://www.sfgate.com/bayarea/article/cabbie-accused-of-raping-fare-2606654.php

2008 mentions an incident involving an "illegal" limousine with rape of an intoxicated woman at 11:30 p.m. on a Friday after being picked up from a ballgame.<sup>75</sup>

- 72. As later described in 2020 in Uber's documents, the objective of "[b]ringing strangers together at Uber's Scale creates a surface area for unsafe situations like road accidents, interpersonal conflicts, food tampering, etc.... The mandate for the Safety team is to raise the bar on safety and ensure that Uber's growth does not come at the expense of the well-being of our users or partners...the Safety team has been building tech to predict and prevent safety incidents while empowering users to feel protected in every single interaction along the user journey."<sup>76</sup>
- 73. In the PDLC, the "application" cannot be defined narrowly as software code or inapp screens alone. Instead, it encompasses the end-to-end environment created by the platform. In Uber's case, that environment includes the car and the interpersonal relationship between two strangers whom Uber actively pairs and sends together through its system. Foreseeable risks must therefore be assessed not only during the ride, but also in the immediate post-trip period for example, if a driver lingers at or pursues a rider after drop-off. In my professional experience, once a platform establishes a system that matches strangers in isolated settings, risks such as Sexual Violence are inherent to the platform itself and must be addressed through the lifecycle governance of the product.
- 74. In the 30(b)(6) deposition of Greg Brown, Mr. Brown describes what he calls the Uber marketplace:

<sup>&</sup>lt;sup>75</sup> Sexual Assault by Limousine Driver. 2008 [Letter] San Francisco Police Department [accessed 2025 Aug 24]. <a href="https://archives.sfmta.com/cms/ctaxicomm/documents/2008/agenga2.pdf">https://archives.sfmta.com/cms/ctaxicomm/documents/2008/agenga2.pdf</a>

<sup>&</sup>lt;sup>76</sup> UBER JCCP MDL 002622606

Q. When you say trips are offered in the passive tense, you are talking about Uber. Uber offers a trip to the driver or group of drivers, right? A. My understanding is that drivers have the opportunity to accept within the Uber app. Q. Who offers them the trip? A. I think it's offered within the Uber app. Q. Who offers it to them? A. I'm not sure if there are specific mechanics. I think generally speaking it's understood it's offered within the Uber app to drivers as part of the Uber marketplace. Q. Whose app is that? A. The Uber app. Q. Uber owns it, right? A. As far as I understand, Uber operates in the marketplace, yes.

75. Uber is not a traditional "marketplace," given, among other things, drivers' lack of pricing authority and Uber's control over which driver is matched with which rider, as well riders' lack of information and choice related to driver selection. <sup>77</sup> Digital platforms vary in how much

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<sup>&</sup>lt;sup>77</sup> Economic and management literature identifies recurring features that define digital marketplaces. One distinction is whether the platform owns inventory or takes title; true marketplaces do not, while resellers do. (Hagiu A & Wright J. Marketplace or Reseller? MGMT. Sci. (2015). 61(1):184-203 [accessed 2025 Sep 21]. https://www.hbs.edu/ faculty/Pages/download.aspx?name=Marketplace Reseller HBS+WP+01312014.pdf ("Hagiu & Wright, 2015")). Another is pricing authority: in most marketplaces, suppliers set their own prices (Hagiu & Wright, 2015), whereas Uber sets base fares and applies dynamic ("surge") pricing. Buyer choice of provider is also central: open marketplaces like Airbnb and Amazon allow customers to select providers, often guided by reputation systems. (Luca M. Designing Online Marketplaces: Trust and Reputation Mechanisms. INNOVATION POL'Y & THE ECON. (2017). 17:77-93 [accessed 2025 Sep 21]. https://www.journals.uchicago.edu/doi/10.1086/688845 ("Luca, 2017"); Christiaens T. Trust and power in Airbnb's digital rating and reputation system. ETHICS INFO. TECHNOL. (2025). 27(18) [accessed 2025 Sep 21]. https://link.springer.com/content/pdf/10.1007/s10676-025-09825-6.pdf). Platforms also control quality standards and safety mechanisms, governing participation through rules and policies (Eisenmann T, Parker G & Van Alstyne M. Strategies for Two-Sided Markets. HARVARD BUS. REV. 2006 Oct 1 [accessed 2025 Sep 21]. https://hbr.org/2006/10/strategies-for-two-sided-markets ("Eisenmann et al., 2006"); Watt M & Wu H. Trust Mechanisms and Online Platforms: A Regulatory Response. (2018) [accessed 2025 Sep 21]. https://www.hks.harvard.edu/sites/default/files/centers/mrcbg/files/97 final.pdf). Cross-side network effects are foundational: platform value increases as more users join both sides. (Rochet J & Tirole J. Platform Competition in Two-Sided Markets, J. EUR. ECON. ASSOC. 2006 Jun 1 [accessed 2025 Sep 21]. https://academic.oup.com/jeea/articleabstract/1/4/990/2280902; Rochet J & Tirole J. Two-Sided Markets: A Progress Report. 2005 Nov 29 [accessed 2025] Sep 21]. https://www.tse-fr.eu/sites/default/files/medias/doc/by/rochet/rochet\_tirole.pdf ("Rochet & Tirole, 2005"); Armstrong M. Competition in Two-Sided Markets. 2002 Aug (revised 2005 May) [accessed 2025 Sep 21]. https://discovery.ucl.ac.uk/14583/1/14583.pdf). Marketplaces also reduce search and transaction costs through discovery systems, which Uber implements via real-time dispatch pairing strangers at scale (Rochet & Tirole, 2005; Luca, 2017). Finally, in "managed marketplaces," platforms themselves control most transaction parameters, including price, matching, and policies (Hagiu & Wright, 2015; Eisenmann et al., 2006).

the platform controls price, matching, and quality governance. The degree to which the company/platform reduces search/matching costs and governs transaction terms and quality, as well as its use of price discovery and trust/reputation mechanisms<sup>78</sup> all shape foreseeable safety risks that must be incorporated into lifecycle governance.

- 76. Uber sets prices (base fare, surge), operates the dispatch/matching system, and controls key policy levers that determine equilibrium outcomes for riders and drivers (e.g., wait times, utilization). These design choices—not merely user "selection"—define the operating envelope in which risk must be identified, prioritized, and mitigated.<sup>79</sup>
- 77. Contrast between traditional "marketplace" features and Uber's functionality (as these features relate to foreseeability):
  - a. Matching/discovery system. Traditional marketplaces and even digital managed marketplaces like Airbnb or UberEats facilitate transactions and reduce discovery and matching friction, but allow the buyer/consumer to make an informed choice (e.g. between alternative hosts or restaurants). Uber by contrast runs a real-time dispatch system that fully manages the pairing of strangers in vehicles at scale. It gives the rider no choice among drivers, nor do the drivers maintain websites, pages, or review histories for riders to browse and utilize in a selection process. These are architectural choices Uber makes that are central to its risk profile.

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<sup>&</sup>lt;sup>78</sup> Täuscher K & Laudien S. Understanding platform business models: A mixed methods study of marketplaces. EUR. MGMT. J. (2018) 36(3):319-329.

<sup>&</sup>lt;sup>79</sup> Horton J.V., Horton J.J. & Knoepfle D.T. Pricing in Designed Markets: The Case of Ride-Sharing. 2021 Apr 20 [accessed 2025 Sep 21]. <a href="https://www.tse-fr.eu/sites/default/files/TSE/documents/sem2021/horton.pdf">https://www.tse-fr.eu/sites/default/files/TSE/documents/sem2021/horton.pdf</a>

- b. Platform control of transaction terms. Traditional marketplaces allow sellers to set prices; Uber, by contrast, sets the base fare and uses dynamic (surge) pricing—platform levers shown to move market equilibrium.<sup>80</sup>
- c. Quality governance/trust systems. The choice to use, restrict, or not to use, ratings and reviews, as well as platform standards, are identified in marketplace taxonomies as standard control mechanisms that the platform designs and operates, which aid in classifying the type of platform, and which serve as inputs to lifecycle risk controls. <sup>81</sup>
- 78. While Uber characterizes itself as a neutral "marketplace" facilitating rider/driver choice, from a product development and risk-management perspective, unlike traditional marketplaces, it designs and operates the core control surfaces—pricing, matching, and safety governance. Established marketplace frameworks treat those control surfaces as design variables that shape foreseeable risks; therefore, under recognized lifecycle practice, those risks should be identified early and integrated into requirements, verification/validation, and release governance.
- 79. In my professional experience, supported by ISO 31000 risk management principles, once a foreseeable safety risk is identified whether by prior industry experience, contemporaneous incidents, or internal acknowledgement it must be explicitly incorporated into the product development lifecycle. This includes dedicated requirements, testing, and iteration aimed at prevention, not merely response. Uber's early awareness of Sexual Violence in related

<sup>&</sup>lt;sup>80</sup> Horton J.V., Horton J.J. & Knoepfle D.T. Pricing in Designed Markets: The Case of Ride-Sharing. 2021 Apr 20 [accessed 2025 Sep 21]. https://www.tse-fr.eu/sites/default/files/TSE/documents/sem2021/horton.pdf

<sup>&</sup>lt;sup>81</sup> Täuscher K & Laudien S. Understanding platform business models: A mixed methods study of marketplaces. EUR. MGMT. J. (2018) 36(3):319-329.

transportation contexts, and its leadership's own testimony that such risks were "immediately known," demonstrate that Sexual Violence was a foreseeable risk that should have been addressed within Uber's PDLC from inception.

- 80. Uber's documents demonstrate it had a problem of Uber drivers committing Sexual Violence against riders, shown by reports of Rape and Sexual Assault at least as early as 2012.
- 81. In the 30b6 Deposition of Todd Gaddis (July 11, 2025), Uber testified it was aware of Uber drivers sexually assaulting riders at least as early as December 14, 2012.<sup>82</sup>
- 82. In 2016, Buzzfeed received screenshots from a former customer service representative of Uber's Zendesk system showing data from December 2012 to mid-August 2015. Those screenshots showed searches for "sexual assault" and "rape." Uber's response both acknowledged that there were documented cases of rape and sexual assault in their Zendesk reports, noted both that "we all know that crimes of this nature are under-reported," and "[w]e would only have claims if the rider/driver reports to us via the app. If we find out about the incident through a different avenue (e.g., law enforcement, a lawsuit, or a media report), we don't retroactively populate our system with a ticket." These documents show Uber's acknowledgement that Sexual Assaults and Sexual Misconduct are under-reported.
- 83. Notwithstanding the foreseeability of Sexual Violence from its formation as a business, Uber did not have a dedicated team for handling the most serious and sensitive safety incidents until July 2017, when it created a specialized team to handle the most sensitive reports ("SIU"). 85 It "looked to recruit people with law enforcement experience, 911 call center

<sup>82</sup> Deposition of Todd Gaddis (Jul 11, 2025), at 24:7-30:17

<sup>83</sup> UBER-MDL3084-000331038

<sup>84</sup> UBER\_JCCP\_MDL\_001711681, at 001711682

<sup>85</sup> UBER JCCP MDL 000073935

experience, victim advocate experience, social service and criminal justice experience, crisis management experience, etc."86

- 84. Gregory Brown, Uber's Head of Central Safety, testified that only 26.49% of passengers who start the process of reporting an issue complete it:
  - Q. Okay. And that means 73.51 percent of all users who clicked on the help button never actually finished the report, right? A. Never actually submitted a ticket. Otherwise, yes. Q. And if a report or a ticket isn't fully submitted, Uber doesn't review it, right? A. As far as I know. I don't know how we would otherwise, so yes.<sup>87</sup>
- 85. Mr. Brown furthermore testified that even at the time of his deposition in June 2025, Uber still had no feedback tag for SA/SM, and it had no explicit instructions to riders to report an incident of Sexual Violence.<sup>88</sup>
- 86. Mr. Brown also testified that there is no estimate or public report of drivers who were reported to have committed Sexual Assault and then went on to commit another one:
  - Q. All right. So fair to say you can't tell us even an estimate of how many drivers at -- how many Uber drivers have reported -- have been reported to have committed sexual assault and then went on to commit another one; is that correct? A. That's correct. I don't have those numbers in front of me right now. Q. But someone at Uber has them? Is that something you could look up? A. It would be possible for our safety data team to analyze and query to answer that specific question, yes. Q.

<sup>86</sup> UBER JCCP MDL 000073935, at 000073936

<sup>&</sup>lt;sup>87</sup> Deposition of Gregory Brown (Jun 17, 2025), Exhibit 1100 (UBER000182899, at 000182910), at 179:8-23

<sup>88</sup> Deposition of Gregory Brown (Jun 17, 2025), at 184:7-188:3

That's not something that Uber has reported to the public, is that correct, that number? A. To the best of my knowledge, Uber's not reported in that specific manner, no.<sup>89</sup>

87. On July 12, 2017, Uber employees prepared and internally circulated a report entitled "Sexual Assaults: Trends + Correlates" by Sunny Jeon that evaluated high-level trends and correlates linked to timing, location, and perpetrators of sexual assaults in the United States and compared it to Sexual Assault between Uber drivers and riders matched by Uber. The report examined different types of incidents within the broader "Sexual Misconduct" JIRA category and those categorized as "Sexual Assault" from July 1, 2016, to July 1, 2017. A total of 24,392 reported "Sexual Assault" and "Sexual Misconduct" incidents were identified during this period on the Uber platform in this internal report. 90

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<sup>&</sup>lt;sup>89</sup> Deposition of Gregory Brown (Jun 17, 2025), at 286:20-287:12

<sup>&</sup>lt;sup>90</sup> Deposition of Sunny Wong (Apr 16, 2025), at 92:16-25, citing to Exhibit 2806 (Bates No. UBER\_JCCP\_MDL\_001687315, at 001687316)

Table 1: Sexual Assault and Sexual Misconduct Counts in the US (July 2016 - July 2017)

Туре	Specific Incident Type	Freq	Perc
Sexual Assault	Non-Consensual Touching	15,681	64.29%
Misconduct	Sexually Inappropriate Remarks or Conversation	4,643	19.03%
Misconduct	Indecent Exposure	1,569	6.43%
Misconduct	Masturbation	824	3.38%
Misconduct	Explicit Gesture	705	2.89%
Misconduct	Staring or Leering	540	2.21%
Sexual Assault	Non-Consensual Intercourse	430	1.76%
		24,392	100%

Source: JIRA.

On December 5th, 2019, Uber published a 2017-2018 US Safety report, 92 which 88. disclosed 5,981 instances of sexual assault between Uber drivers and riders matched by Uber reported to the company that occurred during Uber rides and that it deemed the most serious. In June 2022, Uber published a 2019-202093 US Safety Report, which disclosed 3,824 reported sexual assaults it deemed most serious in that 2 years. In August 2024, Uber published its 2021-2022 US Safety Report that disclosed 2,717 reported incidents it deemed the most serious categories of sexual assault and misconduct. 94 Uber stated in its 2021-2022 report, "We know

<sup>91</sup> Deposition of Sunny Wong (Apr 16, 2025), at 92:16-25, citing to Exhibit 2806 (Bates No. UBER JCCP MDL 001687315, at 001687316)

https://www.uber-assets.com/image/upload/ 2017-2018. Safety Report [Brochure] US v1575580686/Documents/Safety/UberUSSafetyReport 201718 FullReport.pdf, at pg. 59

https://drive.google.com/file/d/ Uber. 2019-2020. US Safety Report [Brochure] 1r2gUgnux2MzM4YMi6D3nwHJb2UaZ5Yjv/view?uclick id=09d034c8-fe12-4fd2-965f-0b331aecd464, at pg. 56 2021-2022. US Safety Report [Brochure] https://uber.app.box.com/s/ <u>lea3xzb70bp2wxe3k3dgk2ghcyr687x3?uclick\_id=e6c608fe-3d0e-4b33-a140-e8e9e54058bd</u> at pg. 19

each report represents the tragic experience of a person and has devastating effects for individuals, families, and communities."95

89. No later than 2016, Uber's internal documents demonstrate that executives at Uber had a clear, quantified understanding of the "Economic Costs of Safety Incidents." <sup>96</sup>

98 These costs cover all incidents identified in the

<sup>2021-2022.</sup> US https://uber.app.box.com/s/ Uber. Safety Report [Brochure] lea3xzb70bp2wxe3k3dgk2ghcyr687x3?uclick\_id=e6c608fe-3d0e-4b33-a140-e8e9e54058bd at pg. 14

<sup>&</sup>lt;sup>96</sup> UBER JCCP MDL 000550714. Note that the "Economic Costs of Safety Incidents Report" is quoted in UBER JCCP MDL 003307773, at 003307785 and UBER JCCP MDL 002473662 as well as in the Deposition of Joseph Sullivan (Jun 25, 2025), at 215:4-218:7, where Mr. Sullivan reports the need to have quantified costs of safety incidents to support a ROI for investing in safety incident reduction, pointing to Exhibit 1212 (Bates No. UBER JCCP MDL 002474499), which has a link the Safety Incidents Report final version that was not produced by Uber.

<sup>&</sup>lt;sup>97</sup> UBER JCCP MDL 000550714

<sup>&</sup>lt;sup>98</sup> *Id*.

safety taxonomy outlined below in ¶ 118. Sunny Jeon goes further to say,

of Sexual Assaults, Uber's documents state, "In August 2018, the US & Can[ada] received almost 2,000 reports of sexual assault, which equates to an incident rate of 16 incidents per million trips.

This represents 91% of all serious interpersonal conflict incidents in the US & Can[ada]." 100

- 91. A published study commissioned by Uber (conducted and co-authored by an Uber employee and an Uber consultant) provides details related to the foreseeability of interpersonal conflicts from "bringing strangers together at scale" (see above) to get a sense of the scale and exponential growth of Uber's onboarding of drivers. Hall and Kreuger, *An Analysis of the Labor Market for Uber's Driver-Partners in the United States*<sup>101</sup> (Nov. 2016) (study commissioned by Uber). Today Uber has over 1 million U.S. drivers, which is at least double the number of drivers during the 2012-2016 period covered by the Hall and Kreuger study.<sup>102</sup>
- 92. This graph was included in the November 2016 study report findings and illustrates what the authors described as "exponential" growth in the number of drivers:

<sup>&</sup>lt;sup>99</sup> UBER JCCP MDL 000550714

Deposition of Valerie Shuping (Apr 17, 2025) Exhibit 601 (Bates No. UBER\_JCCP\_MDL\_000258743) (emphasis added) ("a category which also includes physical altercations with injuries, theft with injuries, and personal stalking")
 Hall J.V. & Krueger A.B. An Analysis of the Labor Market for Uber's Driver-Partners in the United States. National Bureau of Economic Research. 2016 Nov [accessed 2025 Sep 7]. <a href="https://www.nber.org/system/files/working\_papers/w22843/w22843.pdf">https://www.nber.org/system/files/working\_papers/w22843/w22843.pdf</a>

<sup>&</sup>lt;sup>102</sup> Deposition of Henry (Gus) Fuldner (Mar 26, 2025), at 78:21-79:8. See also Only on Uber: Helping to make driving and delivering safer, fairer, and easier. Uber Newsroom. [accessed 2025 Aug. 15]. <a href="https://www.uber.com/newsroom/onlyonuber24/">https://www.uber.com/newsroom/onlyonuber24/</a> (noting there are more than 7 million monthly drivers and couriers on the Uber platform around the world).

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500,000 Number of Active U.S. Driver-Partners 400,000 300,000 200.000 100,000 Jan 2014 Jan 2013 Jan 2015 Jan 2016 **Date** 

Figure 1: Number of Active Driver-Partners in United States Each Month

Note: Figure based on U.S. UberBLACK and uberX driver-partners providing at least four rides in any month (1,085,765 individuals). Source: Uber administrative data. An active driver-partner is defined as a driver-partner who completed at least four trips in the month.

93. In August 2018, Mr. Hasbun acknowledged internally that Uber had "a sexual assault problem," and at his deposition, he testified that he had written that to his Uber colleagues in internal "slack chat" communications. 103 Uber documents state that "[r]educing Sexual Assault

<sup>103</sup> Deposition of Andrew Hasbun (Apr 10, 2025), at 85:14-86:24, citing to Exhibit 2707 (Bates No. UBER JCCP MDL 001283906-912) (Q. Okay. What's the -- what is it you wrote after that? A. "I'm with you" Q. The entirety of that comment. What did you write after that? A. "I'm with you. No, I don't. We have a sexual assault problem. Let's stop pretending like we are trying to battle pick pockets and petty crime." Q. Okay. So August 24th, 2018, you said, "We" -- "we" being Uber, right? A. Correct. ... Q. "Uber, we, have a sexual assault problem," correct? That's what you wrote on August 24th, 2018, correct? A. That's what's in this document. Q. That's what you wrote, correct? A. I don't recall writing it. Q. I understand that. You don't have any reason to doubt that this is what you wrote, do you? A. No.)

incidents was a #1 goal,"<sup>104</sup> and the documented results of the economic cost of Safety analytics in 2016<sup>105</sup> quantified the impact of Safety Incidents including Sexual Assault in financial terms.

94. It is my opinion, based on my review of Uber's documents, that Uber was aware of the existence, scope, and seriousness of incidents of Sexual Violence between Uber drivers and riders matched by Uber no later than December 2012. This awareness was reflected in internal communications, analytical reports quantifying incidents and costs, and the inclusion of sexual assault reduction as a stated safety objective. In addition, Uber's design choices placed it within the category of a managed marketplace, where the platform—not individual users—controlled critical levers of price, matching, and safety governance. In my professional experience, as supported by ISO 31000, once a foreseeable safety risk is inherent in the architecture of a product or platform, that risk must be explicitly integrated into the product development lifecycle. Uber's failure to incorporate foreseeable risks of Sexual Violence into its lifecycle governance represents a departure from accepted practices for risk-sensitive applications.

Opinion 2: Uber failed to incorporate industry-standard risk-based practices into its Product Development Lifecycle, and instead prioritized growth, cost reduction, and competition over the timely implementation of safety-related features that its own internal studies indicated could mitigate risks of sexual assault and misconduct.

95. Based on my review of the materials listed in <u>Exhibit B</u> and my application of recognized software product governance and lifecycle standards, it is my opinion—within a reasonable degree of professional certainty—that Uber's Product Development Lifecycle from 2014–2025 did not align with industry standards for prioritizing features with safety implications, including features Uber's own internal studies identified as expected to reduce the risk and

<sup>&</sup>lt;sup>104</sup> Deposition of Valerie Shuping (Apr 17, 2025), Exhibit 601 (Bates No. UBER JCCP MDL 000258743)

<sup>&</sup>lt;sup>105</sup> See *supra* ¶ 90

prevalence of incidents of sexual assaults and sexual misconduct occurring during trips. I do not opine on liability or causation for any specific incident; rather, I evaluated whether Uber's documented PDLC practices reflected the prioritization, traceability, verification/validation, and risk-management methods that I have used in my 37-year career and documented in widely accepted standards—applied in domains where technology design is more likely than not to put human safety at risk.

96. In my opinion, Uber's internal documents demonstrate that Uber was not only aware but also endorsed ISO Standards and their application to Uber's Software Development Lifecycle Management and risk management practices. UBER\_JCCP\_MDL\_002640891 references the priority of creating an "ISO Standard for gig economy – big bold bet here." 106 Uber's internal safety training, 107 recognized the ISO risk management framework ISO 31000, which supported my assessment of Uber's adherence to risk management industry practices. UBER\_JCCP\_MDL\_002476781 specifies the desire to "Engage ISO (the global network of national standards bodies) to explore the opportunities of developing an ISO standard for management systems of health and safety within a gig (contingent worker) environment." 108 UBER\_JCCP\_MDL\_005205135, at 005205164, "Uber joined the US Technical Advisory Group for the development of an ISO standard on privacy by design, which will ensure privacy is embedded into the design and development process of consumer products and services." 109 Uber also holds ISO 27001 certification in data security. 110

<sup>&</sup>lt;sup>106</sup> UBER\_JCCP\_MDL\_002640891, at 002640893

<sup>&</sup>lt;sup>107</sup> UBER JCCP MDL 001710905

<sup>&</sup>lt;sup>108</sup> UBER JCCP MDL 002476781

<sup>&</sup>lt;sup>109</sup> UBER JCCP MDL 005205135, at 005205164

<sup>&</sup>lt;sup>110</sup> Business account privacy and security [accessed 2025 Aug 15]. <a href="https://help.uber.com/en/business/article/business-account-privacy-and-security?nodeId=c5573317-bb81-4db9-b1a2-c392cdc7f802">https://help.uber.com/en/business/article/business-account-privacy-and-security?nodeId=c5573317-bb81-4db9-b1a2-c392cdc7f802</a>

97. It is my opinion, based on my experience and review of Uber's internal documents, that Uber's PDLC governance was not primarily organized around Agile or Waterfall methodology, but rather around an OKR-driven prioritization framework. Uber's OKRs served as the primary tool to align product and engineering resources to business outcomes. The OKRs, combined with supporting prioritization frameworks such as RAPID and MoSCoW, formed Uber's effective "operating system" to decide which features were resourced and deployed. For this reason, my analysis of Uber's PDLC focuses on whether Uber's OKR-driven processes incorporated risk-based prioritization for safety features, consistent with my experience and ISO/IEC lifecycle standards that document integration of risk management into development governance. Accordingly, in my evaluation, I give greater weight to Uber's OKR processes than to Agile or Waterfall ceremonies, which were secondary execution tools.

98. UBER\_JCCP\_MDL\_005488695 is a 2021 Product and Engineering Change Management document. 111 This Uber SDLC document defines a very structured, well-documented process by which product and engineering teams begin by writing an Abstract, a lightweight process used to evaluate feasibility, move to a Product Requirements Document ("PRD") that houses the relevant artifacts, such as the Abstract, design documents, and audit trails of the process and experimentation. An Engineering Review Document ("ERD") is to be created to maintain traceability of the product requirements with the technical design. Finally, a Structured Review ("SR") is performed with management and peer input.

99. On their face, Uber's Change Management artifact, PRDs, and ERDs show a disciplined process: requirements captured, designs traced, reviews documented. Yet in the

 $<sup>^{111}\,</sup>UBER\_JCCP\_MDL\_005488695,$  at 005488698

materials I reviewed, these same artifacts failed to capture foreseeable safety risks, set reduction targets, or validate safety outcomes. The result is a lifecycle that appears standard in form, but not in function, and therefore does not meet accepted industry standards.

100. Uber's PRD Policy of 2021<sup>112</sup> contains explicit descriptions of every step of the PRD document lifecycle, including Scope, Roles & Responsibilities, a PRD tool to manage the creation, Exceptions and Enforcement, and a glossary of terms. From an industry standards perspective, the use of clear, traceable requirement documentation is required. In my opinion, while structurally aligned with industry practices, these lifecycle controls were inconsistently applied to safety features or incident reduction objectives.

101. Uber's internal documents describe a bi-annual planning process for technical investments. 113 Two documents, H1 2019 Planning Guidance 114 and H2 2018 Planning Guidance, 115 describe in detail the organization's investment allocation strategy. As documented,

Uber " The

remainder of Uber's priorities are built in a 4 Phase process well-described in an October 2017 Technology Investments document. 116 These are described as:

a. Phase 1 –

<sup>&</sup>lt;sup>112</sup> UBER JCCP MDL 000515706

<sup>113</sup> UBER JCCP MDL 004653463

<sup>&</sup>lt;sup>114</sup> Deposition of Michael Akamine (May 19, 2025), Exhibit 0871 (Bates No. UBER\_JCCP\_MDL\_001858358)

<sup>&</sup>lt;sup>115</sup> Deposition of Michael Akamine (May 19, 2025), Exhibit 0870 (Bates No. UBER\_JCCP\_MDL\_003755115)

<sup>116</sup> UBER JCCP MDL 003753544

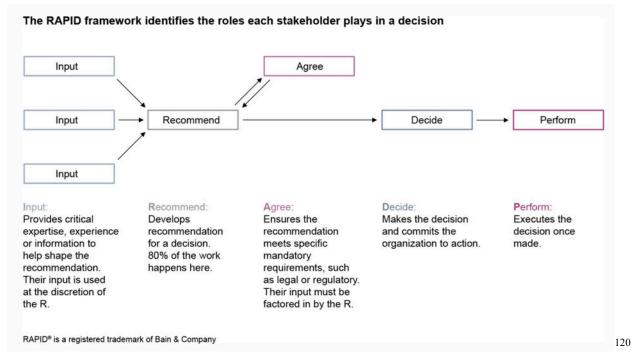


102. In my opinion, Uber's prioritization rubrics and OKR processes did not incorporate structured safety-risk inputs such as outputs from systems-theoretic process analysis (STPA) or failure mode and effects analysis (FMEA). 117 Nor did Uber establish decision thresholds or verification and validation requirements explicitly tied to incident reduction. Based on my experience and the standards enumerated in ISO/IEC 12207 and 15288 (which document a practice of integration of risk controls and validation of safety objectives) and ISO 31000 (which documents a practice of risk treatment plans proportionate to the severity of risk), effective risk-mitigation objectives must be systematically planned, resourced, and measured. At Uber, however, safety initiatives were not embedded in the formal prioritization framework and instead appeared to function as discretionary efforts.

103. Uber's internal documents refer to the use of an industry-recognized RAPID framework for decision-making. A welcome to Uber guide from 2021 defines RAPID as "This is

 $<sup>^{117}</sup>$  STPA and FEMA are fully explained below in ¶ 112

our preferred decision-making framework in Uber Ops."118 Another document, the RFC Template, records, "Uber has officially decided to adopt the RAPID Framework when making decisions." 119 RAPID stands for Recommend, Agree, Perform, Input, Decide. Introduced by Bain & Company, the framework supports the effective definition of the roles and responsibilities each stakeholder plays in a decision:



Within Areas (technology organizational groups that received resource 104. allocations), Uber's documents indicate that Uber follows a well-defined industry standard methodology called the MoSCoW prioritization framework. MoSCoW was developed by Dai Clegg in 1994 while working at Oracle to support prioritization in their proprietary Software Development Lifecycle called Rapid Application Development to help determine priorities of

<sup>&</sup>lt;sup>118</sup> UBER JCCP MDL 000869871

<sup>119</sup> UBER JCCP MDL 001102648

<sup>120</sup> RAPID decision making. Bain & Company. 2023 Oct 13 [accessed 2025 Aug 17]. https://www.bain.com/ insights/rapid-decision-making/

work relative to each other under time and resource constraints. The acronym stands for: Must have, Should have, Could have, and Won't have. 121 Uber's documents indicate the use of the framework with a prioritization scheme of P0, P1, and P2. In a 2019 North Planning Day document, 122 definitions of P0, P1, P2, and P3 map to Must, Should, Could, and Won't:

- a. P0 = immediate, substantial impact on rider or driver-facing operations / competitive standing should it be neglected during the transition, substantial
   (\$1M+) cost risk or other external risk to Uber;
- b. P1 = not P0 in terms of substantial customer experience / competitive/financial risk but still needed to run the business; is internal impact or delayed external impact;
- c. P2 = is strategically important to business, should be considered for continuity, but will not "break" anything if dropped; if transition between orgs occurs, it will happen on a longer timeline (3-6 months +); and,
- d. P3 = not a tracked process for this effort; was originally considered and has
   not been rolled up elsewhere or deprioritized.
- 105. Overall, the well-documented aspects of requirements gathering, the specific adaptation of Agile methodology and ceremonies, and the use of MoSCoW and RAPID frameworks highlight the areas in which Uber follows industry standards in their Product Development Lifecycle to advance business financial objectives. In my opinion, by contrast, based upon the documents cited herein, Uber devoted substantially less attention and did not devote

Agile Business. Chapter 10: MoSCoW Prioritization. Agilebusiness.org. [accessed 2025 Aug 17]. <a href="https://www.agilebusiness.org/dsdm-project-framework/moscow-prioririsation.html">https://www.agilebusiness.org/dsdm-project-framework/moscow-prioririsation.html</a>
122 UBER JCCP MDL 004988081

sufficient attention and prioritization to features that Uber's own internal studies and documents associated with reducing incidents of sexual assault and sexual misconduct.

- 106. At the execution level, teams employed hybrid Agile/Waterfall practices. Testimony from Uber's product leadership, including Mike Akamine, confirmed this hybrid Agile/Waterfall approach. Features included sprints, backlogs, and periodic roadmap reviews—consistent with industry norms.
  - 107. In 2025, leading organizations pair these execution methods with governance that:
    - a. conduct stakeholder-driven requirements gathering, including legal,
       compliance, UX, and trust & safety;
    - apply quantitative prioritization methods like Weighted Shortest Job First<sup>124</sup>
       ("WSJF") and Objectives and Key Results <sup>125</sup> to weigh features, including safety-related ones;
    - c. maintain dynamic roadmaps with quarterly planning cadences; and,
    - d. build continuous feedback loops via experimentation, surveys, incident data, and post-release analysis, (e.g. "PDCA" -- Plan-Do-Check-Act principles). The PDCA cycle is a foundational model for continuous improvement: 'Plan' defines objectives and processes; 'Do' implements the plan; 'Check' measures outcomes against expectations; and, 'Act' adjusts based on what was learned. This iterative method ensures that safety features are revisited, refined, and improved based on real-world data.

<sup>&</sup>lt;sup>123</sup> Deposition of Michael Akamine (May 19, 2025), at 73:18-74:2

<sup>124</sup> Weighted Shortest Job First. SAFe Studio [accessed 2025 Aug 15]. https://framework.scaledagile.com/wsjf

<sup>125</sup> OKRs. SAFe Studio [accessed 2025 Aug 15]. https://framework.scaledagile.com/okrs

108. Industry standards support the principle that risk mitigation is a foundational component of a robust, standards-compliant PDLC, particularly in Agile environments characterized by rapid iteration and deployment. ISO/IEC 12207:2017<sup>126</sup> explicitly enumerates that organizations must define, control, and improve software life cycle processes, and that these processes need to incorporate verification, validation, and quality assurance activities to prevent the introduction of defects and to mitigate operational, security, and safety risks throughout the lifecycle. These activities span planning, stakeholder requirements gathering, architectural design, integration, and release—traceability and formal review mechanisms are required at each stage.

109. In addition, ISO/IEC 24748-1:2024,<sup>127</sup> which provides guidance on lifecycle management for software and systems, reinforces this principle by enumerating process tailoring based on system risk and criticality. The standard specifies that processes should be selected and adapted in a way that matches project characteristics, including risk, size, complexity, and criticality, and emphasizes that development activities must address risks to stakeholders, including users, maintainers, operators, and others affected by the system throughout its life cycle.

110. In the context of consumer-facing platforms—particularly mobile applications that pair drivers with riders and send drivers to riders as part of Uber's transportation network—these risks include user safety risks (*e.g.*, physical harm, assault), privacy risks (*e.g.*, data leakage, unauthorized tracking), operational risks (*e.g.*, system outages or failures), and regulatory compliance risks. <sup>128</sup> These standards make clear that risk mitigation is not an optional activity or

<sup>126</sup> ISO (2017). ISO/IEC/IEEE 12207:2017 Systems and Software Engineering – Software life cycle processes. https://www.iso.org/standard/63712.html

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<sup>&</sup>lt;sup>127</sup> ISO (2024). ISO/IEC/IEEE 24748-1:2024 Systems and Software engineering – Life cycle management, Part 1: Guidelines for life cycle management <a href="https://www.iso.org/standard/84709.html">https://www.iso.org/standard/84709.html</a>

<sup>&</sup>lt;sup>128</sup> Lu K. & Shi C. Why do travelers discontinue using integrated ride-hailing platforms? The role of perceived value and perceived risk. HUMANIT SOC SCI COMMUN

a post-deployment concern, but a core responsibility of any organization that deploys software systems that impact human safety, user trust, or public accountability.

111. Further, industry standards require the alignment of product roadmaps to both business strategy and user safety outcomes. As stated in ISO/IEC 15288:2023, 129 development planning should address risks to stakeholders, including users, maintainers, operators, and others affected by the system throughout its life cycle. The ISO 15288 standard aligns with my experience, observation, and practice in the PDLC and SDLC that safety and stakeholder protections are not optional but must be integrated into planning, design, and lifecycle governance—not added as afterthoughts. It is my opinion that these principles direct organizations to treat user safety as an integral lifecycle requirement, not as a discretionary business choice.

112. Leading organizations operationalize these principles by embedding structured risk assessments—such as System-Theoretic Process Analysis ("STPA")<sup>130</sup>—into the requirements and design phases. Developed at MIT, STPA emphasizes the identification and prevention of unsafe control actions across software, human interaction, and system design. Comparable methods are well-established in other safety-critical industries: Failure Modes and Effects Analysis ("FMEA"), standardized under IEC 60812:2018, <sup>131</sup> is widely applied in automotive and aerospace engineering to identify potential failure points systematically; and, Hazard and Operability Studies

<sup>12, 344 (2025). &</sup>lt;a href="https://doi.org/10.1057/s41599-025-04683-5">https://doi.org/10.1057/s41599-025-04683-5</a>; Schurr A. How new SEC regulations impact mobile app security and what businesses need to know. Nowsecure.com. 2024 July 3 [accessed 2025 Aug 25]. <a href="https://www.nowsecure.com/blog/2024/07/03/how-new-sec-regulations-impact-mobile-app-security-and-what-businesses-need-to-know/">https://doi.org/10.1057/s41599-025-04683-5</a>; Schurr A. How new SEC regulations impact mobile app security and what businesses need to know. Nowsecure.com. 2024 July 3 [accessed 2025 Aug 25]. <a href="https://www.nowsecure.com/blog/2024/07/03/how-new-sec-regulations-impact-mobile-app-security-and-what-businesses-need-to-know/">https://www.nowsecure.com/blog/2024/07/03/how-new-sec-regulations-impact-mobile-app-security-and-what-businesses-need-to-know/">https://www.nowsecure.com/blog/2024/07/03/how-new-sec-regulations-impact-mobile-app-security-and-what-businesses-need-to-know/</a>

<sup>&</sup>lt;sup>129</sup> ISO (2023). ISO/IEC/IEEE 15288:2023 Systems and Software engineering – system life cycle processes https://www.iso.org/standard/81702.html

Leveson N and Thomas P. (2018). STPA Handbook. <a href="https://psas.scripts.mit.edu/home/get\_file.php?name=STPA\_handbook.pdf">https://psas.scripts.mit.edu/home/get\_file.php?name=STPA\_handbook.pdf</a>

IEC (2018). IEC 60812:2018 Failure modes and effects analysis (FMEA and FMECA) <a href="https://webstore.iec.ch/en/publication/26359">https://webstore.iec.ch/en/publication/26359</a>

("HAZOP"), formalized in IEC 61882:2016, 132 are routinely used in chemical and process industries to detect and mitigate operational hazards. These methodologies illustrate that structured risk analysis at the earliest stages of the product development lifecycle is an industry-recognized best practice for preventing safety and reliability failures.

- 113. Public benchmarks show that companies that prioritize safety in line with industry standards consistently allocate visible capacity and capital to safety and then measure those investments against incident reduction:
  - Airbnb publicly states that in 2019 it dedicated \$150 million to new safety a. innovations, and that since 2017, the growth rate of safety investments has outpaced the rate of revenue growth; 133
  - b. Southwest Airlines performed a fleet-wide deployment of Honeywell SmartRunway/SmartLanding cockpit alerting across 700+ Boeing 737s<sup>134</sup> (List price of the equipment is approximately \$33.6 million on top of capital retrofit investments)<sup>135</sup> to provide real-time aural/visual warnings to prevent wrong-surface takeoffs, unstable approaches, and other runway errors;

<sup>&</sup>lt;sup>132</sup> IEC (2016). IEC 61882:2016 Hazard and operability studies (HAZOP studies) - Application guide https://webstore.iec.ch/en/publication/24321

Richardson M. Trust innovation update: Protecting hosts, guests, and communities. Airbnb Newsroom. 2019 Dec Aug 15]. https://news.airbnb.com/trust-innovation-update-protecting-hosts-guests-and-5 [accessed communities/

<sup>&</sup>lt;sup>134</sup> Spirlet T. Southwest Airlines is adding cockpit alerts on all 700 of its Boeing 737s to help prevent runway incidents. Business Insider. 2025 June 16 [accessed 2025 Aug 25]. https://www.businessinsider.com/southwest-adds-cockpitalerts-all-737s-to-prevent-runway-incidents-2025-6

<sup>&</sup>lt;sup>135</sup> Honeywell. Operator Information Bulletin. SmartRunway, SmartLanding and the Original RAAS [Brochure] https://aerospace.honeywell.com/content/dam/aerobt/en/documents/landing-pages/read-more/SmartRunway-SmartLanding-Upgrade-for-Business-Aircraft.pdf (assumes RAAS and SmartRunway/SmartLanding upgrades)

- The FAA FY 2025 request includes \$1.8 billion for the Office of Aviation c. Safety, \$1.0 billion in 2025 (and \$8.0 billion over five years) for Facility Replacement & Radar Modernization. 136
- Uber's own internal documents show it did not track safety in this way. 114.
- 115. Organizations that follow industry standards in product development track the relationship between feature deployment, safety incident reduction, and engineering cost. They retire ineffective solutions, iterate those with promise, and justify roadmap decisions through empirical harm-reduction outcomes. This practice aligns with ISO/IEC 15288, which documents that organizations should establish and execute risk management processes to identify, analyze, and mitigate risks throughout the system life cycle and requires validation and verification activities that demonstrate that systems meet safety and quality objectives.
- 116. In my opinion, Uber's own documents show that its consistent priorities have been growth, cost avoidance, and competitive pressures. This approach has been consistent from Uber's inception and continues today. In a 2016 Uber spreadsheet titled Global Ops Top Problems June 2016 v2, there is a tab called Prioritization Framework – while labeled Draft- that provides the most explicit overview of the three elements Uber considered in prioritization. Those elements are:



<sup>&</sup>lt;sup>136</sup> U.S. Department of Transportation. Federal Aviation Administration. Budget Estimates Fiscal Year 2025 [Brochure] https://www.transportation.gov/sites/dot.gov/files/2024-03/FAA FY 2025 Budget Budget Request.pdf <sup>137</sup> UBER JCCP MDL 000876363

- Each element is given a score from 0-5 against specific criteria, with savings 117. and competitive from ranging from geographies where there was limited competition (Canada, Australia, non-Lyft cities USA, Nordics) to highly competitive threats (China / India / New York / SF, LA).
- Safety Incidents, as defined by Uber, which I consider in my assessment of its 118. Software Development Lifecycle, are:
  - Sexual Assault; a.
  - b. Vehicle Crash or Claim;
  - Theft or Robbery; c.
  - d. Sexual Misconduct;
  - Physical Altercation; e.
  - f. Verbal Altercation;
  - Substance Abuse; g.
  - Inappropriate Post-Trip Contact / Media Upload; h.
  - i. Health / Self-Harm;
  - Law Enforcement / Regulatory; j.
  - k. Potential Safety Concern; and,
  - 1. Dangerous Driving. <sup>138</sup>
- As measured on a metric of all trips 139 between January and May 2018, Sexual 119. Violence between Uber drivers and riders matched on trips, as disclosed by Uber, appears as 11

<sup>&</sup>lt;sup>138</sup> UBER JCCP MDL 00111295

<sup>139</sup> Uber discloses sexual assault incident rates using the denominator of "all trips" taken on its platform. While mathematically correct, this approach dilutes the measured frequency of risk because it includes a vast majority of trips with low baseline risk (e.g., male passengers, daytime rides, repeat commuter trips). A more meaningful risk

reported incidents per 1M trips in the US & Canada, 9 reported incidents per 1M trips in Latin America, 5 reported incidents per 1M trips in Europe, 2 reported incidents per 1M trips in India and 5 reported incidents per 1M trips in Asia Pacific. 140

Assaults as "serious, impactful events for drivers and riders; they also erode Uber's reputation and goal of standing for safety."<sup>141</sup> Uber went on to state, "[a]s such, reducing sexual assault incidents should continue to be our #1 goal for 2019. Product, Ops, Marketing, CommOps, and other stakeholders should rally around this goal by building a strategy upon the insights and gaps surfaced in this narrative."

in ¶ 69 and subsequently, the actual 2012 set of reports that Uber drivers sexually assaulted or committed sexual misconduct against riders, it is my opinion that that Uber's internal prioritization frameworks did not explicitly incorporate Sexual Violence risk as a documented factor—nor did they appear to balance such risks against the financial, reputational, or compliance consequences of safety incidents. My experience and industry standards in ¶¶ 16, 18 *supra* call for a large organization that builds a public-facing application like Uber to employ well-defined and documented risk mitigation elements, structured risk assessments, investments in safety incident reduction aligned with public benchmarks, and a balanced relationship between feature

metric would use a denominator restricted to trips known to carry elevated risk factors—such as female passengers picked up late at night or near alcohol-serving venues, or trips driven by drivers with a history of low ratings. Industry standards for risk management (see ¶ 31) emphasize measuring outcomes against the relevant at-risk population rather

than against the entire universe of transactions, to avoid masking the true magnitude of foreseeable risks.

<sup>&</sup>lt;sup>140</sup> UBER JCCP MDL 001755087

<sup>&</sup>lt;sup>141</sup> Deposition of Valerie Shuping (Apr 17, 2025) Exhibit 601 (Bates No. UBER\_JCCP\_MDL\_000258743)

deployment, safety incident reduction, and engineering cost. This lack of risk focus in prioritization was a key aspect in which Uber's SDLC did not meet industry standards.

122. Another clear departure from safety-centered industry practices can be seen in Uber's internal definition and management of Areas related to resource allocations. Over time, Uber systematically adjusted these Areas in response to business drivers such as revenue growth, cost savings, and competitive positioning, but not to the growing issue of Sexual Violence. It is my opinion that this is evident in the resource allocation trends documented in three key internal planning presentations: 2017 Technology Product Strategy, 142 2020 Global Tech Day, 143 and 2022 H2 Planning for Core Services. 144

Over tin	me, across the focus ar	eas of revenue grow	th, cost savings, a	and competitive

positioning, it is my opinion that shifts in resource allocation were aimed at maximizing the desired business outcomes.

123. Uber did not utilize an industry standard approach in consideration of the risks or costs of Sexual Violence between Uber drivers and riders matched by Uber, documentation of which can be found in the resource allocation to Safety & Insurance spanning 2017 – 2022 overall,

<sup>&</sup>lt;sup>142</sup> UBER JCCP MDL 003747880

<sup>&</sup>lt;sup>143</sup> UBER JCCP MDL 002626931

<sup>&</sup>lt;sup>144</sup> UBER JCCP MDL 002636360

Other large investments were made in areas that were foundational components funding Uber's growth like Infrastructure, Business Platform, Money (payments), Uber Everything, and Tech services which represented collectively just under 50%.

and specifically the proportion of P0 (Must) priorities that have a direct impact on reducing the incidents of Sexual Assault between Uber drivers and riders matched by Uber. My analysis of the data from the three resource allocation presentations I discuss in ¶ 122 is that <sup>146</sup> This shows that safety

- In 2023, at a summit in Mexico City, Uber authored a comprehensive retrospective 124. of its safety planning from 2017 through 2023. 147 This comprehensive retrospective scored their process as to how well it was:
  - aligned with business strategy/business input; a.
  - cross-functionally aligned; b.
  - had cascading OKRs; and, c.
  - d. had an input scorecard.
- Uber's approach to safety governance did not materially change between 2014 and 125. 2025. The 2023 Mexico City retrospective shows the company assessed itself on business-strategy alignment, cross-functional alignment, cascading OKRs, and input scorecards. Yet across the materials I reviewed:
  - Sexual Violence prevention was not consistently captured as top-level a. OKRs or cascaded into area KRs with P0 accountability;

<sup>&</sup>lt;sup>146</sup> The allocations were:

<sup>&</sup>lt;sup>147</sup> UBER JCCP MDL 003941539

b. foreseeable safety-risk inputs were not used as gating criteria in prioritization; and,

c. resources were not allocated at levels necessary to meet time-bound P0 targets.

126. Taken together, these patterns indicate that safety was a substantially lower priority than growth, cost, or competitive objectives. In my opinion, this retrospective confirms the broader pattern in Uber's governance: safety was not embedded in the OKR system as a first-order constraint.

127. In addition to underinvestment, according to Uber's own internal assessments (with which I agree), Uber lacked reliable data systems to measure or manage safety risks, a precondition for aligning lifecycle processes with harm reduction. Uber lacked a clear process for collecting, tracking, and auditing incidents of Sexual Violence between Uber drivers and riders matched by Uber on trips, as well as assessing the impact of such incidents, which are critical components of an industry-standard methodology for risk management. Uber could not begin to tackle its Sexual Assault and Sexual Misconduct problems without clear definitions and data necessary to drive internal studies to demonstrate incident reduction in consideration of new features, as I will now describe below.

128. In a June 16, 2020, e-mail between Frank Chang, Katy McDonald, Valerie Shuping, and others, Katy McDonald comments at 693: "To echo Valerie's points: the biggest concern is around data quality. Not only are the ticket reports themselves not audited, but our historical safety deactivation data is messy and unreliable. Only in the last few weeks have we launched a reliable process and data source for collecting deactivation data, and that only applies to deactivations

going forward (not historical). We weren't even able to provide this # for the Safety Report accurately without a manual review of the incidents." <sup>148</sup>

129. On February 14, 2018, in an email between Frank Chang, Gus Fuldner, and others that discussed driver deactivation inconsistencies for ratings and why a specific driver was not deactivated for poor ratings, Frank Chang's response at 684: "Yeah, ratings are a complete mess. Little consistency between what is shown in different places, the thresholds are all different." <sup>149</sup>

130. On February 14, 2018, an email thread between Frank Chang, Danielle Portugal, Matt Baker, and others regarding the adjudication process for sexual misconduct acknowledged inconsistent policies, a lack of unification, a desire for unification, and different understandings between departments regarding specific policies. <sup>150</sup>

- 131. On January 31, 2018, in an email thread between Frank Chang, Gus Fuldner, and others regarding data quality, Frank Chang admitted that "Data has been a problem for a year. If I hired someone last year to focus on it, we may be in better shape. It is a complete mess now and I need as much firepower as I can muster." <sup>151</sup>
- 132. On July 28, 2021, an investigation/safety audit done by Uber Pacific Limited, the Australian branch of Uber, identified process failures and inconsistencies in the application of incident management. The audit also stated that complaint handling systems were determined to be a failure on behalf of Uber Pacific to ensure the safety of passengers and drivers, as far as reasonably practicable. Drivers with multiple complaints, including sexual misconduct, were allowed to continue to drive on the platform without appropriate action or investigation. Uber

<sup>&</sup>lt;sup>148</sup> UBER JCCP MDL 000499692, at 000499693

<sup>&</sup>lt;sup>149</sup> UBER JCCP MDL 001635684

<sup>&</sup>lt;sup>150</sup> UBER JCCP MDL 003401255

<sup>&</sup>lt;sup>151</sup> UBER000102146

<sup>152</sup> UBER JCCP MDL 002395500

Pacific's duty officers were unable to provide a holistic view of the end-to-end process, further highlighting system failures. 153

In conclusion, based on the materials reviewed and my application of industry-133. standard product governance frameworks, it is my opinion within a reasonable degree of professional certainty that Uber's PDLC between 2014<sup>154</sup> and 2025 failed to incorporate structured, risk-based prioritization of safety features. Uber's governance system, centered on OKRs, consistently subordinated safety outcomes to growth, cost, and competition. As a result, the company did not meet industry standards for aligning software lifecycle processes with foreseeable risks of sexual assault and misconduct between Uber drivers and riders matched by Uber.

Opinion 3: Despite having --probably by 2010, and certainly no later than 2017 – the technical ability to identify high-risk trip pairings using internal data, and internal analyses indicating this could reduce incidents of sexual assault and misconduct, Uber delayed and limited deployment of those capabilities, reflecting a prioritization of marketplace metrics over risk-based safety governance.

Uber's technology for matching Uber drivers and riders is central to how Uber runs 134. its transportation network. Its proprietary algorithms process more than 30 million potential pairings per minute, balancing supply and demand, minimizing wait times, and optimizing routes.

<sup>&</sup>lt;sup>153</sup> UBER JCCP MDL 002395500

<sup>154</sup> While my formal evaluation is limited to Uber's Product Development Lifecycle between 2014 and 2025 based on the documentary record I reviewed, I believe it is more likely than not that the same lack of adherence to industrystandard, risk-based practices extended back to Uber's launch in 2010. However, I did not have access to Uber's Product Development Lifecycle documentation from 2010-2014. To evaluate that earlier period, documents of the type I reviewed for 2014-2025 would be necessary, including: Product Requirements Documents (PRDs), Engineering Review Documents (ERDs), Change Management artifacts, internal planning presentations, OKR/priority-setting frameworks, and internal safety studies or audits.

This matching capability, refined since Uber's earliest days, is a key part of the company's technical advantage. 155, 156, 157, 158, 159

While technically complex, the fundamentals of the matching technology are 135. simple and based on an approach that dates to Uber's earliest days. One of the first advances of the Uber technology team was to introduce "batched matching." As described by Uber, "In the seconds after a rider requests a ride, we evaluate nearby drivers and riders in one batch. We then pair riders and drivers in the distribution, aiming to reduce the average wait time for everyone, not just the closest pair. This helps keep things moving and rides reliable across the network." <sup>160</sup>

136. Uber's website highlights that matching is a core part of what makes Uber work. It highlights features of the matching engine that let drivers set a destination they are trying to get to (like home) and selects matches that help move in that direction. It mentions it modifies pairings to help maintain safety in Uber's transportation network by preventing matches if a rider or driver has given the other a one-star rating in the past. 161

Uber's documents demonstrate a rich set of public and private data about riders, 137. drivers, locations, and pairings that it has used in internal studies over the years to improve matching, as I will now describe in detail below. Uber used machine learning models with differing end goals (i.e., reduce theft, reduce sexual assault, as explained below) and its vast data points to

<sup>&</sup>lt;sup>155</sup> UBER JCCP MDL 005017982, at 005018037-8

<sup>156</sup> UBER JCCP MDL 000120609

<sup>&</sup>lt;sup>157</sup> UBER JCCP MDL 004227033

<sup>158</sup> UBER JCCP MDL 002080004

<sup>&</sup>lt;sup>159</sup> UBER-MDL3084-000082360

How does Uber match riders with drivers? [accessed 2025 Aug 17]. https://www.uber.com/us/ en/marketplace/matching/ <sup>161</sup> *Id*.

develop matching interventions to prevent safety incidents between Uber drivers and riders matched by Uber.

- 138. In June 2015, Uber launched Bouncer, <sup>162</sup> an "Intelligent Decision System" that applied machine learning to anticipate and prevent safety incidents such as dangerous driving and interpersonal conflicts. Bouncer served as a precursor to Safety Risk Assessed Dispatch ("S-RAD"), which focused specifically on sexual assault prevention. While Bouncer evaluated a broad range of safety incidents, Safety Risk Assessed Dispatch was tuned exclusively to predict sexual assaults and incorporates Bouncer's general risk score as one of its inputs.
- 139. The Bouncer program identified the "Data Pipeline," which encompasses both internal and external data relevant for detecting high-risk users. Data listed in the Bouncer data pipeline was: 163



<sup>&</sup>lt;sup>162</sup> UBER JCCP MDL 003231342

<sup>&</sup>lt;sup>163</sup> The data pipeline was demonstrating the ability to pull internal and external data together to build risk prediction models.



140. Uber's 2015 internal assessment concluded the Bouncer model was very highly predictive of all three types of incidents it was designed for: Dangerous Driving (90% accuracy, 96% precision), Driver interpersonal conflict<sup>165</sup> Rider interpersonal conflict The Bouncer program reviewed two types of interventions that could be leveraged with the model it developed:

In Q1 2016, Uber introduced cash trips in Latin America, which quickly grew to be 141. 33% of all trips in Latin America by the end of 2016. Along with the introduction came a significant increase in rider-to-driver incidents (a 4x increase in incidents on cash trips was noted by 2Q 2016). Uber moved quickly to develop and implement a machine learning model (Safe Dispatch Model: SDMv1) that could predict those incidents and deliver interventions in less than a year to the whole cash market. In Uber's documents, Uber recorded, "Purpose: Developed as an intervention for rider -> on -> driver interpersonal conflict incidents (e.g., theft, altercation) on cash trips. Preventing incidents by blocking trip requests in Latin America. [...] using machine learning we flagged potentially risky requests [...] overall

<sup>&</sup>lt;sup>164</sup> UBER JCCP MDL 003231342

<sup>&</sup>lt;sup>165</sup> Of which 91% of serious Interpersonal Conflict is Sexual Assault (see Footnote 9)

<sup>&</sup>lt;sup>166</sup> See UBER JCCP MDL 003402264, at 003402268, Warnings were produced by SASSY (Smart + Automated Safety SMS System) providing pro-tips and warnings for repeat violations which reduced safety incident counts.

<sup>&</sup>lt;sup>167</sup> Deposition of Frank Chang (May 9, 2025), Exhibit 765 (Bates No. UBER000051894)

<sup>&</sup>lt;sup>168</sup> UBER\_JCCP\_MDL\_005035906

169 Uber's documents discuss extensively the impact of

the Safe Dispatch Model on the Rider experience and Rider Growth. Balancing the primary mission of growth with the safety improvements of rider interventions is a primary concern. It is recorded that, "We

Uber's ability to design, train, and deploy this model in under a year in 2016 demonstrates that when marketplace risks threatened growth, the company prioritized and accelerated machine learning solutions— this contrasts sharply with its slower approach to sexual assault risk interventions.

- 142. Uber publicly disclosed the potential of machine learning to predict safety incidents by filing a Patent application in October 2016: US-10720050-B2, predicting safety incidents using machine learning, which is defined as, "A safety system associated with a travel coordination system collects safety data describing safety incidents by providers and generates a plurality of safety incident prediction models using the safety data. The safety incident prediction models predict likelihoods that providers in the computerized travel coordination system will be involved in safety incidents. Two types of safety incidents predicted by the safety system include dangerous driving incidents and interpersonal conflict incidents."<sup>171</sup>
- 143. By Q2 2017, Uber demonstrated a reduction in the cash-to-card incident rate from 4X to 2X. In Q3 2021, the Safe Dispatch Model began to be tuned for non-cash IPC interventions

<sup>&</sup>lt;sup>169</sup> UBER JCCP MDL 002346315

<sup>&</sup>lt;sup>170</sup> UBER JCCP MDL 003501783, at 003501787

<sup>&</sup>lt;sup>171</sup> Jeon S, inventor. Uber Technologies, Inc., assignee. Predicting Safety Incidents Using Machine Learning. US 10,720,050 B2. 2020 Jul 21.

(Theft, other serious IPC), and the global model was tracked and measured against safety metrics and marketplace metrics. <sup>172</sup> Today, the Safe Dispatch Model is used across mobility and delivery, and its cash-related interventions have continued to evolve and improve over the years.

- 144. The speed at which Uber developed the Safe Dispatch Model, rolled it out in cash markets, while balancing intervention rates with growth and marketplace concerns, demonstrates the technical ability of Uber's matching engine and the power of data to predict and prevent safety concerns generally.
- 145. I turn now to Uber's specific work to prevent sexual assaults between Uber drivers and riders matched by Uber. Uber's documents show the company was engaged in studying sexual assault patterns, specifically no later than 2017.<sup>173</sup> In a February 2017 email, <sup>174</sup> Qi Dong shared that based on Uber's internal data, sexual assaults have patterns and precursors. The analysis showed that most sexual assault incidents happen:
  - a. late at night ("Bars + late night + weekends");
  - b. have mostly male offenders and female victims;
  - c. offenders have previous safety incidents;
  - d. lower ratings; and,
  - e. higher Bouncer risk scores. 175
- 146. The analysis indicated that models could be developed to predict sexual assaults between Uber drivers and riders matched by Uber. 176

<sup>&</sup>lt;sup>172</sup> UBER JCCP MDL 003739583

<sup>&</sup>lt;sup>173</sup> Bouncer was initiated in June 2015 but was broadly focused on anticipating and preventing safety incidents as discussed above.

<sup>&</sup>lt;sup>174</sup> UBER\_JCCP\_MDL\_000964270

<sup>&</sup>lt;sup>175</sup> *Id*.

<sup>&</sup>lt;sup>176</sup> *Id*.

147. Uber's Trust & Safety Data Science team performed a comprehensive analysis in February 2017 titled Preventing Sexual Assaults. The analysis dove deeply into the trip-level correlates, driver-level correlates, rider-level correlates, and the development of a baseline trip-level risk model. The model was trained to predict critical (L3/L4) sexual assaults between Uber drivers and riders matched by Uber using US data from October 2016 to January 2017. Forty-three predictors were used in the baseline model, including: age, Bouncer scores, "creepy driver" feedback, gender, ratings, safety incident history, spatial features (*e.g.*, number of bars near pickup), and trip history (*e.g.*, trip count, tenure, and percent of trips at night/weekends). The team listed "next steps" to build a production-grade version of the model and to determine intelligent interventions/rules/actioning to prevent those sexual assaults.<sup>177</sup>

- 148. A July 2017 report by Sunny Jeon titled "Sexual Assaults: Trends + Correlates" <sup>178</sup> identified the most predictive data (with statistically significant findings) available to Uber to identify the 24,392 cases of Sexual Assault and Sexual Misconduct that were documented between July 2016 and July 2017. Predictors of Sexual Assault and Sexual Misconduct include:
  - a. Rider Feedback (signals with rider feedback with works like "kiss", "sex",
     "inappropriate behavior", "flirt", "creepy" and "rude" 15x more likely
     Sexual Assault risk;
  - b. Prior Report(s) of Sexual Misconduct / Sexual Assault 12x more likely
     Sexual Assault risk;
  - c. Pickups by Bars -3x more likely Sexual Assault risk;

<sup>&</sup>lt;sup>177</sup> UBER JCCP MDL 000031720

<sup>&</sup>lt;sup>178</sup> UBER\_JCCP\_MDL\_001687315

- d. Late Night / Early Morning Pickups highest from 11 pm to 4 am. >5x between 12-3 am; and
- e. 1 Star Ratings above mean nearly **3x** more likely Sexual Assault risk; and
- f. Gender (Male Driver / Female Passenger) **2.27x** more likely Sexual Assault risk.<sup>179</sup>
- 149. In my opinion, Uber's documents provide an indication of the breadth of data it could use to correlate to a report of sexual assault between a rider and a driver matched by Uber, and that it internally recognized could ultimately reduce those sexual assaults:
  - a. **3x** more likely if most of the rider's or driver's previous trips occurred between 12 am and 5 am;
  - b. 2.5x more likely if rider had less than 5% battery power left on their phone;
  - c. 2.5x more likely if the trip was surged at least 2x;
  - d. 2x more likely if the pick-up was within 150 feet of a bar;
  - e. **1.5x** more likely if the rider's phone was not connected to WiFi at the time of the request;
  - f. 1.2x more likely if the rider or driver had fewer than 20 lifetime trips; and
  - g. **3-5x** more likely within the next 30 days after driver received a feedback tag for "professionalism," "comfort," or "conversation" associated with a star rating below 5 stars. 180

<sup>&</sup>lt;sup>179</sup> Deposition of Sunny Wong (Jun 25, 2025), Exhibit 1239 (Bates No. UBER\_JCCP\_MDL\_002266899, at 002266906).

<sup>&</sup>lt;sup>180</sup> Deposition of Katherine McDonald (Oct 7, 2024), Exhibit 0010 (Bates UBER000204698, at 000204708)

Dispatch (see *supra* ¶ 138), a production-grade machine learning model designed to identify trips with an elevated risk of sexual assault and to intervene before harm occurred. In a July 2018 Model Overview document, Uber stated: "Evidence suggests this approach (model plus down-ranking procedure to intervene) may be able to prevent up to 15% of sexual assaults in the US by flagging 1% of the highest risk trips." <sup>181</sup> As described below, Uber conducted repeated internal studies of the Safety Risk Assessed Dispatch system in the United States, Brazil, and other international markets to evaluate its potential for Sexual Violence prevention. Despite these promising findings, Uber did not move beyond limited internal testing for several years, delaying the broad deployment of Safety Risk Assessed Dispatch despite its documented potential to prevent assaults.

151. Building on those initial 2017 findings, the data scientists at Uber identified additional factors that are predictive of sexual assaults. From that same 2018 model overview document, Table 2 below shows the predictors of sexual assault identified by Uber's data scientists before driver dispatch incorporated sexual assault predictors into the first production model. Only the weather predictor on the list had not yet been incorporated but was suspected to be impactful.

<sup>&</sup>lt;sup>181</sup> Deposition of Sunny Wong (Jun 25, 2025), Exhibit 1240 (Bates No. UBER\_JCCP\_MDL\_003306684, at 003306685)



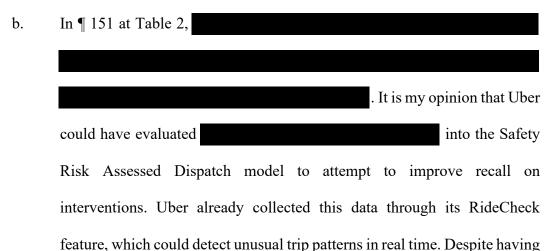
152. Sunny Wong testified about the extent of data features available for building machine learning models for Bouncer<sup>183</sup> and Safety Risk Assessed Dispatch. <sup>184</sup> Wong testified about how data signals, their use in matches, and how machine learning can analyze data to inform a matching algorithm.

<sup>&</sup>lt;sup>182</sup> UBER JCCP MDL 000120609

<sup>&</sup>lt;sup>183</sup> Deposition of Sunny Wong (Apr 16, 2025), Exhibit 2811 (Bates No. UBER-JCCP MDL 003231342), at 193:8-199:12, 207:21-223:3; Exhibit 2812, at 234:3-238:1

<sup>&</sup>lt;sup>184</sup> Deposition of Sunny Wong (Apr 16, 2025), at 318:4-319:18, Exhibit 2823 (Bates No. UBER JCCP MDL 003306684), at 328:1-352:4, Exhibit 2824 (Bates No. UBER MDL 002266899), at 352:5-356:2

- 153. In consideration of the documentation provided and my technical expertise, I was asked to consider whether other data might be available and incorporated into Uber's Safety Risk Assessed Dispatch model to improve the model's recall rate in identifying high-risk trips and intervening to prevent sexual assaults. Although I did not have access to the underlying data or the model itself to test these additional factors, my professional experience at United and in Financial Services assessing risk of physical harm provided the basis for my review of these requests. I cover those opinions in the paragraphs below:
  - In ¶ 149(f), Uber's documents showed that riders or drivers with fewer than a. 20 trips on the platform were correlated with an increased risk of sexual assault. It is my opinion that Uber could have analyzed additional aspects to enhance the "new to platform" factor in the Safety Risk Assessed Dispatch model to improve recall on interventions. Publicly available data, such as the depth of a credit report (the number of years of reported credit history), provides a reliable indicator of how long a driver has resided in the United States. Uber could have requested this information as part of its driver application process, but I did not see documentation that Uber did so.

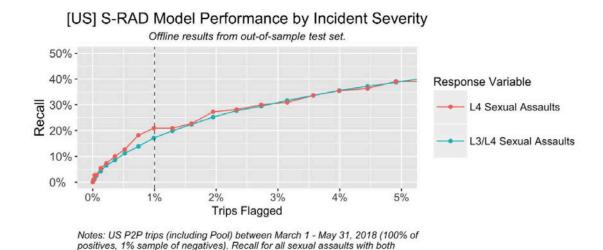


- c. In ¶ 149(b) and (e), Uber's documents showed that detailed phone app data—such as battery life percentage and WiFi connectivity—were correlated with sexual assault and were already considered in some matching processes. It is my opinion that Uber technically could have evaluated the impact of active audio or video streaming from a driver's or rider's phone as an additional input and considered it as another factor in assessing the risk level of a trip in the Safety Risk Assessed Dispatch model.
- d. Uber's documents showed that certain feedback tags, such as "professionalism," "comfort," or "conversation," when paired with a rating below 5 stars, are associated with an elevated risk of sexual assault or serious sexual misconduct. 185, 186 It is my opinion that Uber should have further studied the way in which riders were using feedback tags and star ratings to let Uber know about sexual misconduct, and that Uber should

<sup>&</sup>lt;sup>185</sup> Deposition of Greg Brown (Aug 25, 2025), citing Exhibit 1930 (Bates No. UBER\_JCCP\_MDL\_003273474 at 003273553)

<sup>&</sup>lt;sup>186</sup> UBER\_JCCP\_MDL\_004522493 (acknowledging feedback tags as a signal for patterns of behavior that may be concerning and warrant removal from the platform); UBER\_JCCP\_MDL\_000454790 (feedback tags, "professionalism", "comfort" and "conversation" were more likely to be followed by reported sexual assault/misconduct); UBER\_JCCP\_MDL\_003273474 (after a driver received a 1-4 star rating with a feedback tag "professionalism," "comfort," or "conversation," there was a 3-5x higher risk that the driver would be reported for committing sexual assault/sexual misconduct in the next 30 days, relative to drivers who received 1-4 star ratings without these tags); UBER\_JCCP\_MDL\_000108957 ("Data shows these three tags [comfort, conversation, professionalism] are most likely to lead to Sexual Assault/Misconduct Tickets...Safety has seen some very compelling data about feedback tags and future behavior."); Deposition of Greg Brown (Jun 17, 2025), Exhibit 1104 (Bates No. UBER\_JCCP\_MDL\_000508970) ("The Safety Data Science team have reported on [the professionalism] tag as being a precursor to safety-related incidents. It is being eliminated.")

- have integrated this predictive data into its risk model for Sexual Violence prevention.
- In events where a trip was flagged as high risk by the Safety Risk Assessed e. Dispatch machine learning model, it is my opinion that Uber technically could have enhanced the matching algorithm and tested using the presence of audio/video streaming as a factor in matching to improve Uber's success in intervention, reducing the incidence of sexual assault.
- 154. A performance graph in the 2018 model overview shows the relationship between: (1) "Trips Flagged" (often called "Trigger-Rate" by Uber) – the percent of completed trips flagged as high risk, and (2) "Recall" – the percent of sexual assaults correctly anticipated. In this internal study by Uber, the graph shows moving from a 1% Trips Flagged to a 4.5% Trips Flagged doubles the number of Sexual Assaults flagged (Recall) for possible intervention from almost 20% to nearly 40%.



<sup>187</sup> UBER JCCP MDL 000120609, at 000120609.002

driver + rider reporters (source: JIRA). 3358 L3/L4 incidents and 110 L4 incidents in test set. Results from Female Model V1 RC 26 and Male Model V1 RC

187

155. Evident throughout Uber's documents that memorialize the development and
rollout of Safety Risk Assessed Dispatch is the active tradeoff between the prevention of critical
sexual assaults and any sort of negative impact on growth or marketplace measurements. In 2021,
Dharmin Parikh wrote to Gus Fuldner, Uber's Head of Safety, that
"188 In my opinion,
Uber's own documentation showed that by increasing the trigger-rate budget, it could further
reduce sexual assaults between an Uber driver and rider matched by Uber, substantially, but it
came with ." Uber's selection of the
is an example of how Uber prioritized financial considerations over sexual assault prevention.

<sup>&</sup>lt;sup>188</sup> UBER\_JCCP\_MDL\_000564019



Unlike many of the safety features that had an extremely positive effect on growth by increasing rider and driver perception of safety, Uber instituted a

<sup>&</sup>lt;sup>189</sup> UBER\_JCCP\_MDL\_005025910

communications blackout policy regarding its Safety Risk Assessed Dispatch. Until recently, no information about the program was disclosed to the public. 190, 191, 192

Uber systematically evaluated the rollout and continuation of its Safety Risk 157. Assessed Dispatch model not only by its impact on serious sexual assault and misconduct incidents, but also by how it affected Uber's core marketplace metrics such as estimated time of arrival ("ETA"), cancellation rate ("C/R"), and conversion rate. 193 In formal product documentation, Uber expressly framed the Safety Risk Assessed Dispatch rollout as contingent on "meaningful safety benefit with minimal marketplace impact," with target thresholds defined as 194 These metrics were not peripheral but central; primary success criteria for Safety Risk Assessed Dispatch internal studies included hard caps on C/R declines and post-dispatch ETA increases (e.g., respectively), in my opinion indicating that safety interventions were only greenlit if they preserved rider supply and trip liquidity. 195 Marketplace tolerance thresholds were repeatedly compared alongside incident reduction data in region-specific tables (e.g., Brazil, US, India), showing that safety outcomes were evaluated in parallel with operational disruption metrics. 196 Moreover, Uber noted that "unexpected" performance changes—specifically those affecting marketplace metrics—would trigger deeper review and possible course corrections. 197 In my

<sup>&</sup>lt;sup>190</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 0889 (Bates No. UBER JCCP MDL 003274193)

<sup>&</sup>lt;sup>191</sup> See recent *NY Times* article where Safety Risk Assess Dispatch was referenced in the public. Steel E. Über's Festering Sexual Assault Problem. NY TIMES. 2025 Aug 6 [last updated 2025 Aug 7] [accessed 2025 Sep 8]. <a href="https://www.nytimes.com/2025/08/06/business/uber-sexual-assault.html">https://www.nytimes.com/2025/08/06/business/uber-sexual-assault.html</a>

<sup>&</sup>lt;sup>192</sup> See Uber's response to the *NY Times* article -- Nilles H. Uber's record on safety is clear. UBER NEWSROOM. 2025 Aug 6 [accessed 2025 Sep 24]. <a href="https://www.uber.com/newsroom/ubers-safety-record/">https://www.uber.com/newsroom/ubers-safety-record/</a>

<sup>&</sup>lt;sup>193</sup> The proportion of user opportunities (such as ride requests) that ultimately result in completed trips.

<sup>&</sup>lt;sup>194</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 0889 (Bates No. UBER\_JCCP\_MDL\_003274193, at 003274197)

<sup>&</sup>lt;sup>195</sup> *Id.* at 003274250

<sup>&</sup>lt;sup>196</sup> *Id*.

<sup>&</sup>lt;sup>197</sup> *Id*.

opinion, Uber's own engineering updates to its Matching system deprioritized Safety Risk Assessed Dispatch's filtering logic, allowed high-risk flagged trips to proceed in favor of ETA optimization, and further indicated that operational KPIs frequently supersede safety intervention efficacy – without notifying riders that they are being paired with high-risk drivers or option to increase wait time to pair with a low risk driver. <sup>198</sup>

158. Sunny Wong testified about the factors of scoring, the implications on pairing, and the avoidance of blocking:

Q. When Uber is aware that a particular trip has a number of risk factors, like late night, weekend, from a bar area, does it – are there any of those trips where it just won't — it will decide not to pair it with a driver who has risk factors, like prior sexual misconduct? A. Again, thinking about S-RAD context, S-RAD will score the rider-driver pairings, and for the higher-rated scores, or, you know, higher-risk pairings, we'll try to reduce the probability of those match — those plans from getting matched. Q. That's how Uber decided to deploy S-RAD, is to downrank pairings, right? A. That's correct. Q. Uber could have decided to block certain pairings, right? A. Again, what we referred to earlier, we wouldn't have reasonable confidence on what might happen on a particular plan, for example, right. For us to block the plan, again, we will eventually reduce our ability to provide reliable and safe matching transportation service for that particular trip request. Q. How does Uber know if it's gone as far as it can in trying to block rides or prevent rides that have a heightened probability of sexual assault? A. I do not know.<sup>199</sup>

<sup>&</sup>lt;sup>198</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 0889 (Bates No. UBER\_JCCP\_MDL\_003274193)

<sup>&</sup>lt;sup>199</sup> Deposition of Sunny Wong (Jun 25, 2025), at 211:24-213:5

**Q.** How much confidence does Uber need that the risk of sexual assault is elevated before it will block a pairing? **A.** We've never discussed that.<sup>200</sup>

159. In my opinion, these consistent patterns across product planning, technical internal studies, and rollout monitoring demonstrate that Uber weighted marketplace continuity as a limiting factor in the expansion and effectiveness of Safety Risk Assessed Dispatch, which led to a slowdown in its rollout and a trigger-rate budget below what was considered possible if not for the marketplace concerns.

160. Uber demonstrated its ability to tune and roll out a dispatch feature informed by a machine learning model, with a rollout (9 months) of the Safe Dispatch Model interventions to prevent theft on cash trips. The Safety & Insurance product team was aware of that ability when it identified Safety Risk Assessed Dispatch as a "Must Have" priority for H2 2018 and set a Q3/Q4 "Needs to launch by" date. <sup>201</sup> Uber's documents, however, state that the first two market rollouts of Safety Risk Assessed Dispatch took until July 2022, a full 4 years. Global rollout took about 5-6 years. <sup>202</sup> It is my opinion that this timeframe was unreasonably slow compared to Uber's demonstrated capability and industry standards.

161. Uber's internal decision-making reveals that the rollout of Safety Risk Assessed Dispatch was repeatedly deprioritized in favor of other initiatives, despite its demonstrated potential to reduce serious sexual assaults. Notably, a formal recommendation was made to "repurpose resources from planned Moto-focused work to broader model performance

<sup>&</sup>lt;sup>200</sup> Deposition of Sunny Wong (Jun 25, 2025), at 214:3-7

<sup>&</sup>lt;sup>201</sup> UBER JCCP MDL 002095535

<sup>&</sup>lt;sup>202</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 0889 (Bates No. UBER\_JCCP\_MDL\_003274193)

improvement efforts," such as retraining with more diverse data and incorporating new features like guest ride signals and account sharing indicators.<sup>203</sup> Additionally, Uber prioritized a rulebased alternative, SRAD-lite, <sup>204</sup> over deployment of the full machine-learning-based Safety Risk Assessed Dispatch in Europe to mitigate legal and regulatory risk under the GDPR, stating that a rules-based system offered "higher interpretability" and "shorter time-to-market." <sup>205</sup> Product-level conflicts further diverted attention from Safety Risk Assessed Dispatch. Specifically, Uber's 2022 matching algorithm updates prioritized faster ETAs over safety scores, leading to flagged highrisk trips being dispatched. This shift eroded the effectiveness of Safety Risk Assessed Dispatch and likely drew engineering focus to marketplace performance optimization.<sup>206</sup> Meanwhile, Uber's 2024 roadmap shifted emphasis to building risk interventions for delivery segments (e.g., Eats, Grocery), proposing SRAD-lite rollouts even as gaps in Safety Risk Assessed Dispatch's coverage for mobility persisted.<sup>207</sup> Finally, concerns over reputational risk and public narrative coherence caused Uber to delay expansion pending external validation, noting "we may need to have the academic validation workstream further solidified" before publicly speaking about Safety Risk Assessed Dispatch in regulatory contexts.<sup>208</sup> Collectively, these decisions show Uber's repeated pattern of diverting resources and delaying deployment of a tool that Uber internally

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 $<sup>^{203}</sup>$  Deposition of Michael Akamine (May 20, 2025), Exhibit 0889 (Bates No. UBER\_JCCP\_MDL\_003274193 at 003274207)

<sup>&</sup>lt;sup>204</sup> It is my opinion that Uber's development of a rules-based alternative (SRAD-lite) demonstrates that earlier deployment of such an approach was technically achievable. Rules-based models were foundational to Uber's matching and pricing systems from its founding in 2010. In my professional experience, similar rules-based decision systems were in operational use in complex industries such as aviation at least as early as 2002, when I applied such approaches at United Airlines.

<sup>&</sup>lt;sup>205</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 0889 (Bates No. UBER\_JCCP\_MDL\_003274193, at 003274235)

<sup>&</sup>lt;sup>206</sup> Id.

 $<sup>^{207}</sup>$  Id

<sup>&</sup>lt;sup>208</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 0887 (Bates No. UBER\_JCCP\_MDL\_000897033, at 000897097)

expected to meaningfully reduce sexual assaults between Uber drivers and riders, matched by Uber, in favor of other commercial, legal, or reputational priorities.

- 162. Despite having the technical ability to use its available data to reduce incidents of sexual assaults no later than 2018, Uber has continued for years to make risky pairings anyway.
- 163. In my opinion, Uber made a business choice to use a soft downranking (or soft filtering) approach rather than a hard blocking approach. In its model, rides that score in the highest risk range have their objective function values increased effectively reducing their chance of being dispatched but they are not entirely blocked from matching if no better alternatives exist. <sup>209,210, 211</sup> As described by Uber: "The model does not block riders from receiving trips." <sup>212</sup> Uber goes on to state, "hard filtering [which would have blocked riders from receiving trips] was discussed in the past and was ruled out, due to not meeting the fairness criteria." <sup>213</sup>
- 164. In my opinion, for the Safety Risk Assessed Dispatch development and rollout, Uber maintained a larger-than-necessary holdout group (users excluded from intervention so the model could be evaluated). By withholding intervention where the model recommended it, Uber could compare sexual assault rates in "treated" versus "holdback" groups to measure effectiveness. Maintaining a 20% holdout for years into deployment is atypical, exposing users to a significantly higher level of risk, according to Uber's own internal assessments. Uber notably did not use the data and knowledge in its possession to attempt to prevent sexual assault or misconduct against riders in the "hold out" group.

<sup>&</sup>lt;sup>209</sup> UBER JCCP MDL 005643450

<sup>&</sup>lt;sup>210</sup> UBER JCCP MDL 004014417

<sup>&</sup>lt;sup>211</sup> Deposition of Michael Akamine (May 20, 2025), at 335:17-336:13, citing to Exhibit 885 (Bates No. UBER\_JCCP\_MDL\_002296949)

<sup>&</sup>lt;sup>212</sup> UBER JCCP MDL 001738115

<sup>&</sup>lt;sup>213</sup> UBER\_JCCP\_MDL\_003348713

165. In Uber's early internal studies the holdback group was as high as 50% (meaning one of every two rides that Uber calculated as likely to lead to a sexual assault did not have the benefit of the Safety Risk Assessed Dispatch intervention) down in more recent testing to 20% (meaning 20 out of every 100 rides predicted to lead to a sexual assault did not have the benefit of the Safety Risk Assessed Dispatch intervention). By comparison, Bruno Grimaldi responsible for Product on the RideCheck product, in a document "RideCheck Holdout Group Safety Effectiveness Measurement" noted an effective Holdout Group will exclude somewhere between

, "This

is a significant volume of trips that will have one less Safety product covering them, which is compounded by our ambition to make this product more important to the overall on-trip Safety journey."<sup>214</sup>

Assessed Dispatch model and during its use today effectively withholds point-of-dispatch safety interventions from one in five rides (while at the same time utilizing a trigger rate that did not optimize prevention). Arguably, this was reasonable during initial testing phases. However, industry standards in machine learning and deployment optimization strongly support a reduction in the size of holdback groups over time as model performance stabilizes and documentation accumulates. For instance, Zhang et al. (2022) provide a formal framework to determine optimal holdout size, demonstrate that large holdouts should shrink as the learning curve flattens and predictive accuracy stabilizes, and minimize the cost of withholding intervention benefits from

 $<sup>^{214}\,</sup>UBER\_JCCP\_MDL\_003019132$ 

users (*Optimal Sizing of a Holdout Set for Safe Predictive Model Updating*, ResearchGate).<sup>215</sup> Similarly, long-term experimentation analysis from the Pinterest platform revealed that a persistent 1% holdout group was sufficient to track diminishing treatment effects over time, supporting the use of much smaller holdbacks in mature deployment environments (CXL, "Hold-Out Groups: Gold Standard for Testing—or False Idol?")<sup>216</sup> These facts provide a basis to underscore that in my opinion, Uber's failure to reduce its 20% Safety Risk Assessed Dispatch holdback likely resulted in avoidable harm according to Uber's own assessments, as a progressively smaller holdout could have continued to validate model effectiveness while expanding protective coverage to more users.

167. Based on my review of Uber's technical documentation, internal studies, patents, and product planning materials—and informed by my professional experience in technology product development and governance—it is my opinion, to a reasonable degree of professional certainty, that Uber had the technical and operational capability no later than 2017 to deploy machine learning models and interventions, such as Safety Risk Assessed Dispatch, to reduce its self-assessed risk of sexual assault incidents.

168. Uber's own studies showed that these models and interventions could materially reduce incident rates. Comparable models (*e.g.*, Safe Dispatch for theft prevention) were rolled out globally in under a year. Uber had the technical and product ability to roll the feature out faster,

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<sup>&</sup>lt;sup>215</sup> Haidar-Wehbe S., Emerson S., Aslett L., & Liley J. (2022). Optimal sizing of a holdout set for safe predictive model updating. 10.48550/arXiv.2202.06374. <a href="https://www.researchgate.net/publication/358603566">https://www.researchgate.net/publication/358603566</a> Optimal\_sizing\_of a holdout set for safe predictive model updating

<sup>&</sup>lt;sup>216</sup> Gleason D. Hold-out groups: Gold standard for testing—or false idol? CXL. 2018 Nov 15 [accessed 2025 Aug 17]. https://cxl.com/blog/hold-out-groups/

,<sup>217</sup> block greater increase the size of the treated population numbers of high risk matches, and reduce the holdback group all of which, according to Uber's own internal studies, would have increased the number of high-risk trips flagged for intervention and thus, in Uber's own view, reduced the number of incidents of sexual assault between 2017 and today. 218 These delays and limitations are particularly problematic given that Uber's Safety Risk Assessed Dispatch product represents its only effort to make rider-driver pairings with a lower risk of sexual violence. <sup>219</sup> In consequence, for trips that took place prior to Uber's delayed introduction of Safety Risk Assessed Dispatch, and those in the holdback group or scored Uber is taking no action whatsoever to select Rider-Driver pairings with a lower rather than higher risk of sexual assault. These decisions prioritized marketplace continuity over user safety, resulting in fewer interventions and, by Uber's own documentation, fewer preventable assaults.

169. In a 2018 document, Safety Two-Year Vision, Uber wrote, "We always find you the safest match possible." But of all the rides it rates for risk, Uber's Safety Risk Assessed Dispatch model addresses only the top rides. For the remaining Uber's Safety Risk Assessed Dispatch model does nothing to address the risk those rides entail, leaving those riders with the same randomly assigned drivers. The Safety Risk Assessed Dispatch model also does nothing to address the risk of the group.

<sup>&</sup>lt;sup>217</sup> Deposition of Sunny Wong (Jun 25, 2025), Exhibit 1243 (Bates No. UBER JCCP MDL 002340895), at 75:4-16 (Q. Well, as we already discussed, Uber selects the flagging rate, right? A. Correct. Q. And this is an Uber document, right? A. Yes. Q. So presumably "we" is Uber. A. Okay. Q. Right? A. Yes. Q. And Uber selected a rate, right? MR. PREMO-HOPKINS: Object to form. THE WITNESS: Correct.)

<sup>&</sup>lt;sup>218</sup> Note: the efficacy of Safety Risk Assessed Dispatch for preventing sexual assault is limited by all four of these Uber decisions and policies: (a) the size of the holdout, (b) the budget, and (c) the policy of not using Safety Risk Assessed Dispatch to block high risk matches (d) the speed of rollout.

<sup>&</sup>lt;sup>219</sup> Deposition of Sunny Wong (Jun 25, 2025) at 232:18-233:9

Opinion 4: By no later than 2020, Uber possessed the technical capacity to deploy mandatory audio and video recording features that its own studies associated with reductions in interpersonal conflict, including sexual assault and misconduct. Uber nonetheless delayed and restricted deployment, instead prioritizing growth, legal, and reputational considerations over the timely adoption of safety measures identified in its internal analyses.

- 170. The earliest discussion within Uber that I identified on utilizing audio or video recording was a November 2015 email exchange with the subject "re: 3<sup>rd</sup> Party Rider Video Recorder: TripCam Startup." In that exchange, Uber executives discussed a new company called TripCam, which was advertising a tablet designed explicitly for ridesharing drivers that records passengers. Executives reviewed concerns that testing recording could find its way into regulations and would be expensive and a "major drag on conversion." These Uber executives agreed to move the focus of piloting such activities outside the US and Canada. <sup>220</sup>
- 171. Uber began internal studies into the impact of audio recording no later than 2016 with its "Project Dolby." An Uber Trust & Safety update in November 2016 stated that Uber was beginning internal studies and pilots in audio and video recording to "Increase the veracity of reported incidents by empowering users to document what happened on-trip." Project Dolby evaluated the various Legal, Policy, Safety, and Language barriers to introducing a recording pilot and chose to pilot the audio recording technology in South Africa<sup>222</sup> and Chile. <sup>223</sup>
- 172. In 2018, the Executive Leadership Team approved an early video recording study in the US using a vendor-based internal-facing dashcam ("Dashcam(s)").<sup>224</sup> These studies and

<sup>&</sup>lt;sup>220</sup> Deposition of Rebecca Payne (May 2, 2025), Exhibit 3 (Bates No. UBER JCCP MDL 001739175, at 001739181)

<sup>&</sup>lt;sup>221</sup> UBER000171153

<sup>&</sup>lt;sup>222</sup> Deposition of Joe Sullivan (Jun 25, 2025), Exhibit 1211 (Bates No. UBER JCCP 001731586)

<sup>&</sup>lt;sup>223</sup> UBER JCCP MDL 000553415

The term "Dashcam" in the rideshare and taxi industries has long carried the implication of a camera system recording both the road ahead and the interior passenger compartment. See, e.g., Transport and Main Roads, Queensland Government, Security Camera Systems in Taxis and Booked Hire Services Fact Sheet. (2017 Jun 9)

pilots provided early documentation of potential value to Uber drivers and riders but also articulated a set of legal, privacy, and revenue growth concerns. 225

By late 2019, Uber's internal studies into audio and video recording regularly made 173. the news with stories like, "Uber's latest attempt to address safety concerns: Letting riders and drivers record rides" - CNN; Uber News: "Company To Allow Users in Brazil, Mexico To Record Audio of Rides as Safety Measure" - International Business Times; "Uber to test recording audio of trips in effort to improve security"- NBCNews.com; "Prepare to be Watched Everywhere" -Fortune. 226 Also in late November 2019, CEO Dara Khosrowshahi said on Twitter in response to

2025

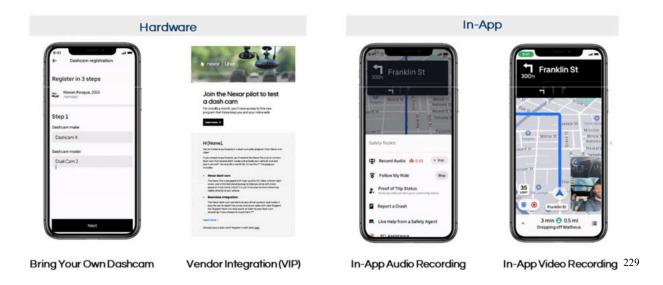
14] [accessed https://www.tmr.qld.gov.au/~/media/busind/Taxiandlimousine/Taxisecuritycamera/Camerasystemfaq.pdf ("The majority of taxis already have approved security cameras. From 1 October 2017 all booked hire vehicles that meet the risk profile must have an approved security camera.") (requiring interior recording systems for driver/passenger safety); Queensland Government, Security Camera Systems—Technical Specifications, (2017 Aug) [accessed 2025 https://www.tmr.qld.gov.au/-/media/busind/Taxiandlimousine/Taxisecuritycamera/camerasystemspecs.pdf?la=en (defining "internal camera" that "must provide a clear view of the front of the driver and all forward-facing passengers"); New South Wales Point to Point Transport (Taxis and Hire Vehicles) Regulation 2017, Reg. 18 [accessed 2025 Sep 14] https://www8.austlii.edu.au/cgi-bin/viewdb/au/legis/nsw/consol\_reg/ptptahvr2017610/s18.html (requiring that "A taxi ... must be fitted with an approved security camera system" and that "An approved security camera system must comply with the safeguards prescribed under this Regulation"); City of Chicago, Public Vehicle Industry Notice No. 17-043: Security Camera Technical Specifications for Charter/Sightseeing Vehicles. (2017 Jun 23) [accessed 2025 https://www.chicago.gov/content/dam/city/depts/bacp/publicvehicleinfo/taxiindustrynotices/17-Sep 043SecurityCameraTechinicalSpecifications62617.pdf (requiring that the security camera system "must have a field of vision to capture all of the occupants of the vehicle" and mandating recording of "images of the interior ... at all times passengers are on board"); Zeng et al., Evaluation of Sample Taxicab Security Cameras, J Transportation Tech. (2017) [accessed 2025 Sep 14]. https://www.scirp.org/pdf/JTTs 2017101115041011.pdf (peer-reviewed evaluation of in-taxicab camera systems: "To help taxi fleets select effective taxicab security cameras ... determining their photographic quality which correlated to the effectiveness of in-taxicab facial identification," and noting that "An incab facial photograph ... may contain sufficient facial information to allow customer identification ..."); and most recently, the GAO confirmed that "rideshare and taxi vehicles may have security cameras that record the inside of the vehicle." GAO Report 24-106294 (2024 Sep 9) [accessed 2025 Sep 9], https://www.gao.gov/assets/gao-24-107093 pdf. Taken together, these rules and studies demonstrate that by 2018, "Dashcam" in the taxi/rideshare context reasonably implies a dual-camera (interior + exterior) system rather than merely a forward-facing device — as also evidenced by Uber's own internal documents, including H2 2018 US/CAN List of Initiatives -UBER JCCP MDL 001145482 (see "All Project List" tab, cell E49), which reports: "Distribute internal-facing dashcams to drivers (or, if possible, specifically women drivers) to film any potential incidents and dissuade riders from misbehaving." and 2019 WIP Rider Dash Cam Survey - UBER JCCP MDL 005746725 (p. 1), which asks riders: "Have you ever been in an Uber with an internal-facing dash camera?"

<sup>&</sup>lt;sup>225</sup> UBER\_JCCP\_MDL\_000515739

<sup>&</sup>lt;sup>226</sup> UBER\_JCCP\_MDL\_002100229

a media report about the expansion of its videotape program, "None of this is simple or easy, but we'll continue to invest, test, and learn to improve safety on our platform while respecting privacy."<sup>227</sup>

174. Uber now has four types of audio and video recording capabilities integrated into the Uber driver and rider applications:<sup>228</sup>



- 175. The "Bring Your Own Dashcam" feature allows Uber drivers to connect a Dashcam they purchase to the Uber app. This feature was launched in 2020. <sup>230,231</sup>
- 176. The Vendor Integration ("VIP") approach allows Uber drivers to rent equipment from Uber vendor partners who provide equipment for a monthly fee that connects to the Uber app. Launched in September 2021, documents state, "We have built 3 APIs to standardize

<sup>&</sup>lt;sup>227</sup> UBER\_JCCP\_MDL\_001785136, at 001785137

<sup>&</sup>lt;sup>228</sup> These capabilities were optional for Uber drivers and riders; Uber did not mandate video or audio recording as a condition of providing or receiving rides.

<sup>&</sup>lt;sup>229</sup> UBER\_JCCP\_MDL\_000516118, at 000516123

<sup>&</sup>lt;sup>230</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 81:20-82:9

<sup>&</sup>lt;sup>231</sup> UBER-MDL3084-000074305

integrations with dashcam vendors ... the goal is to deploy 12,500 cameras by EOY 2021 and analyze pilot results..."<sup>232</sup>

177. "In-App Audio Recording" is a feature that allows the Uber rider or driver app to record audio using the phone as an audio capture device. A US pilot program was initially launched in December 2021 in Kansas City, Raleigh, and Louisville.<sup>233</sup>

178. "The In-App Video Recording" enables the Uber Driver app to use the phone's front-facing camera to record video of the interactions between the Uber driver and riders. Uber's documents state, "Piloting this feature in select cities across the US since 2022." A March 2023 document by Andrew Hasbun, titled "RSG Questions for Video," documented the October 2022 pilot of the in-app video recording for drivers in select cities. Rebecca Payne testified in a deposition in April 2025 that the In-App video recording was piloted in 2022 and launched in 2023.

**Q.** Okay, in-app video recording, what is that? **A.** Somewhat similar feature to audio recording, but available to drivers[.] **Q.** Okay. And that launched in 2023, right? **A.** Piloting started in 2022, launched in 2023, yes.

179. According to Mr. Fuldner, Uber's Senior Vice President of Safety & Core Services, "[d]ashcams are a useful safety tool for a variety of safety incidents. That includes... sexual misconduct ..." One reason for that is that it is valuable for determining what happened in the case of a dispute. "[D]ashcam video is helpful when it is available in understanding what happened on

<sup>&</sup>lt;sup>232</sup> UBER\_JCCP\_MDL\_000158014, at 000158015

<sup>&</sup>lt;sup>233</sup> UBER JCCP MDL 002094833

<sup>&</sup>lt;sup>234</sup> UBER JCCP MDL 003359545

<sup>&</sup>lt;sup>235</sup> UBER JCCP MDL 002072525

<sup>&</sup>lt;sup>236</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 80:25-81:13

an incident, on a trip." Notwithstanding its recognized value, Uber did not and still does not require its drivers to have internal-facing Dashcams. "We encourage it. We do not require it." 237

180. Roger Kaiser (who served as Uber's Global Head of Safety Operations) wrote in an April/May 2023 email exchange: <sup>238</sup>

We know dashcams are effective deterrents. A driver owned one is better than nothing.

At a minimum, we should be striving for a dashcam on every trip. Either a drivers, an enrolled BYOD, or via app. For the first, couldn't we just ask drivers to tell us?

- 181. A March 2021 "Dashcam Program Update" acknowledges that Dashcams are beneficial to both the Uber driver and rider, and that Uber "just needed to find the optimal pricing and distribution model for scale."
- 182. Uber studied the value of Dashcams in improving safety. In its internal documents, Uber reported that "dashcams are the most powerful tools we have to prevent incidents" and provide "ground truth on what happened."<sup>240</sup>
- 183. Uber consistently described in-vehicle cameras as a potential safety feature, and by no later than February 2020 had conducted controlled pilot studies demonstrating their impact. By February 2020, Uber's Dashcam Pilot Safety Analysis documented a 16% reduction in verbal interpersonal conflict (IPC) associated with the presence of cameras, which Uber characterized as statistically significant; the same study also observed a directional reduction in physical IPC, though the result did not reach statistical significance.<sup>241</sup> In my opinion, the fact that the measured

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<sup>&</sup>lt;sup>237</sup> Deposition of Henry (Gus) Fuldner (Mar 26, 2025), at 101:12-101:21

<sup>&</sup>lt;sup>238</sup> Deposition of Roger Kaiser (Apr 22, 2025), Exhibit 645 (Bates No. UBER\_JCCP\_MDL\_000722229 at 000722230) Deposition of Dennis Cinelli (Mar 28, 2025), at 104:11-105:1, citing Exhibit 463 (Bates No. UBER JCCP MDL 000864943, at 00864956)

<sup>&</sup>lt;sup>240</sup> UBER\_JCCP\_MDL\_002275608, at 002275608.0024

<sup>&</sup>lt;sup>241</sup> Deposition of Dennis Cinelli (Mar 28, 2025), citing Exhibit 462 (Bates No. UBER\_JCCP\_MDL\_000255343, at 000255343.0067)

reduction in physical IPC was not statistically significant does not mean that there was no documentation of efficacy; instead, it means the amount of data limited the results. By August 2021, further studies produced evidence of a 13.42% Verbal IPC rate improvement and a 6.66% Physical IPC rate improvement. Methodology for statistical significance was not provided in the report. 242

Despite this documented significant reduction in IPC<sup>243</sup> rates, which include Sexual 184. Assault and Sexual Misconduct, Uber's documents from this time indicate concerns of privacy, legal/regulatory, marketplace/growth, and technology effectively vetoed the deployment of audio and video recording. I will review the documentation of each of these below.

Legal and regulatory concerns were listed as challenges to expanding recordings. 185. In a 2018 Dashcam Strategy document, Uber listed "employment legal challenges, and risk of increased regulation," and "...scaling broadly comes with many challenges." In a 2017 document called Uber Safety Device, Uber wrote that "Tech is feasible and cost-effective, but employment law and consumer privacy issues are paramount."244

186. In the Safety Comms 2023 Plan, Uber enumerated that audio and video recording was one of its High Priority Projects. Yet, "Audio recording and in-app video recording will soon become 'record my ride' are the significant safety features we have developed since the emergency button and ride check. While expansion will be slow, we need to take a measured approach to fend off privacy concerns."245

<sup>&</sup>lt;sup>242</sup> Deposition of Andi Pimentel (Oct 15, 2024), Exhibit 116 (Bates No. UBER000169470, at 000169479)

<sup>&</sup>lt;sup>243</sup> Of which 91% of serious Interpersonal Conflict is Sexual Assault (see Footnote 9)

<sup>&</sup>lt;sup>244</sup> Deposition of Andi Pimentel (Oct 15, 2024), citing Exhibit 108 (Bates No. UBER0000192968, at 000192988)

<sup>&</sup>lt;sup>245</sup> Deposition of Brooke Anderson (May 1, 2025), Exhibit 3214 (Bates No. UBER JCCP MDL 000324315)

187. To address the privacy concerns, documents emphasized that recordings would be encrypted and accessible only if needed for safety purposes. In Uber's 2021-2022 US Safety Report, Uber wrote that Audio Recordings are "encrypted on the user's phone and can only be accessed by Uber if a user shares the audio as part of a safety-related report. Before the trip, we'll let the rider know in their app if a driver is using the feature, and vice versa." And for video recording, it says, "Similar to our in-app Audio Recording feature, recordings are encrypted and cannot be accessed unless the driver chooses to submit the footage as part of a safety incident report to Uber."246

188. Regarding Marketplace concerns, in the February 2020 Safety & Insurance Data Analytics / Ops DS Newsletter, Uber highlights that Audio Recording: Pilot #1 finished up with inconclusive marketplace results.<sup>247</sup> Additionally, in a January 2021 Safety & Insurance Data Analytics / Ops DS Newsletter, the team noted that marketplace impacts on audio recording could not be measured in a statistically significant way due to the dramatic and continuing market changes in the markets in which audio recording was being tested. 248 As discussed earlier in my report, Uber took the expected impact on growth seriously, which resulted in a slow rollout of a safety feature.

Uber frequently cited "technical challenges" as barriers to rolling out in-app audio 189. and video recording. For example, in an October 2022 memorandum, Uber described issues such as app crashes, overheating, and storage limitations. <sup>249</sup> A 2021 Dashcam Update further listed

<sup>2021-2022.</sup> US Uber. Safety Report [Brochure] https://uber.app.box.com/s/ lea3xzb70bp2wxe3k3dgk2ghcyr687x3?uclick\_id=d5f4f5df-dedc-4082-89d4-6b59ef6b8cf3

<sup>&</sup>lt;sup>247</sup> Deposition of Rebecca Payne (Apr 2, 2025), Exhibit 2519 (Bates No. UBER JCCP MDL 001431857, at 001431858)

<sup>&</sup>lt;sup>248</sup> Deposition of Roger Kaiser (Nov 19, 2024), Exhibit 0429 (Bates No. UBER JCCP MDL 000369623, at 000369632-3)

<sup>&</sup>lt;sup>249</sup> UBER000178357

platform limitations, including iOS restrictions on background recording, battery and memory consumption, and the need for frequent deletion of video due to storage constraints. <sup>250</sup> While these challenges were engineering considerations, in my professional opinion, they did not constitute barriers to deployment at scale. As reviewed below in ¶¶ 190–191, Uber's own patent described technical solutions—including on-device encryption and controlled access—that addressed many of these same concerns. Moreover, as reviewed *supra* in ¶¶ 168–171, Uber's pilots in the United States, South Africa, and Chile demonstrated that these features could operate in real-world conditions. By 2023, Uber had successfully launched in-app recording features. Finally, as noted below in ¶¶ 193–197, by 2020, major platforms such as YouTube, Twitch, and AlfredCamera were already supporting continuous mobile audio and video streaming at far higher volumes than required by Uber. Taken together, these points demonstrate that Uber's claimed "technical challenges" do not resonate with either my professional experience or the publicly available market evidence of what was feasible at the time.

190. Uber holds a Patent US-20240086578-A1 titled "Computer system and device for controlling use of secure media recordings" with a priority date of Feb 12, 2020 – the date of the earliest provisional application from which it claims benefit. The patent describes a computer system and device designed to securely control the capture, storage, and use of audio and video recordings within a mobile application environment, tailored for safety-critical scenarios such as rideshare services. Key features relevant to in-app audio and video recording as safety tools include:

<sup>&</sup>lt;sup>250</sup> Deposition of Andi Pimentel (Oct 15, 2024), Exhibit 116 (Bates No. UBER000169470, at 000169497)

- Secure Recording Capture real-time recording of audio and video on a a. computing device in media files that are unrenderable on the computing device.
- Controlled Access & Encryption recordings are encrypted and stored on b. the device and/or cloud servers. Access is strictly controlled.
- Privacy & Legality the recording system differentiates itself from userc. controlled recording, stating that the recording of such media can be illegal, viewed as an invasion of privacy to the other party, or deemed unreliable.
- d. Incident-Based Unlocking - recordings remain inaccessible and can be unlocked if a disagreement or more serious incidents occur, where an investigation is needed.<sup>251</sup>
- 191. The Patent outlines a privacy-conscious, legally compliant framework for implementing audio and video recording features within a rideshare app, which balances safety and privacy/regulatory concerns. It provides further documentation that, as of 2020, Uber had the technological capability to implement a recording technology that could mitigate legal, regulatory, and privacy concerns. The patent contains capabilities like, "the media files may be stored in an encrypted or protected form, so that the contents of the media files are inaccessible to the user of the computing device," "determining the transport service for one or more riders has ended," and "where the copies may be made readable under predetermined conditions (e.g., for law enforcement, when permission of the other party is provided)."252

<sup>&</sup>lt;sup>251</sup> Gupta S, Bosin M, Chopra N, et al, inventors; Computer System and Device for Controlling use of Secure Media Recordings. US 2024/0086578A1. 2024 Mar. 14.

<sup>&</sup>lt;sup>252</sup> Gupta S, Bosin M, Chopra N, et al, inventors; Computer System and Device for Controlling use of Secure Media Recordings. US 2024/0086578A1. 2024 Mar. 14.

192. I was asked to consider when, from a technology perspective, Uber had the ability to mandate/rollout global audio and video recording in relation to its first internal studies and pilots that had results demonstrating a reduction in interpersonal conflicts (which includes Sexual Assault and Sexual Misconduct). In the paragraphs that follow, I will outline the basis for my opinion that Uber had the technical ability to roll out mandatory audio and video recording no later than 2020, which would stream the recordings back to Uber in an encrypted form for later review in the event of a safety incident report by the rider or driver.

193. By 2020, major consumer mobile platforms were already supporting live video and audio capture from smartphones in continuous sessions of 15 minutes or more, confirming that the technical capability for in-app ride recording at scale was mature and in broad use. For example, YouTube Live allowed users to stream video directly from mobile devices through the official YouTube app. Google confirmed mobile live streaming support for users with more than 1,000 subscribers by 2019. By 2020, multiple third-party apps—including Streamlabs and ManyCam—enabled users to bypass subscriber thresholds and live stream directly from Android or iOS devices to YouTube. <sup>253, 254, 255</sup>

194. Twitch, a leading live-streaming platform for gaming and creators, also enabled mobile users to go live directly from the Twitch mobile app, which was updated in 2019 and 2020 to simplify mobile broadcasting. Twitch's own newsroom reported 3 million+ monthly streamers

<sup>&</sup>lt;sup>253</sup> Restrictions on live streaming (1000 subscribers threshold). YouTube Help. 2019 Apr 5 [accessed 2025 Sep 8]. https://support.google.com/youtube/thread/3612372?hl=en&msgid=5380485 2019

How to live stream on YouTube from phone. Streamlabs Creator Resource Hub. 2021 Apr 16 [accessed 2025 Aug 26]. https://streamlabs.com/content-hub/post/how-to-live-stream-on-youtube-from-phone

<sup>&</sup>lt;sup>255</sup> Live stream to YouTube with your phone without 1K subscribers. ManyCam Blog. 2020 Oct 1 [accessed 2025 Aug 26]. <a href="https://manycam.com/blog/live-stream-to-youtube-with-your-phone/">https://manycam.com/blog/live-stream-to-youtube-with-your-phone/</a>; Live stream to YouTube with your phone without 1K subscribers. ManyCam Blog. 2020 Oct 1 [accessed 2025 Aug 26]. <a href="https://manycam.com/blog/live-stream-to-youtube-with-your-phone/">https://manycam.com/blog/live-stream-to-youtube-with-your-phone/</a>

and over 15 million daily active users in 2020, with many using smartphones to broadcast shortto-medium-length sessions.<sup>256</sup>

- 195. Beyond social streaming, AlfredCamera—a popular home security app—allowed users to turn smartphones into live video surveillance cameras. As of early 2020, Alfred supported 24/7 live streaming, motion-triggered alerts, and two-way audio, streaming over Wi-Fi or mobile data networks. Alfred had over 50 million worldwide downloads on the Google Play Store by that time, showing wide consumer adoption.<sup>257</sup>
- The technology in use by these platforms, along with the broader industry context 196. in 2020, showed that leading social media platforms such as TikTok, <sup>258</sup> Snapchat, <sup>259</sup> Teams, <sup>260</sup> and Zoom<sup>261</sup> had successfully implemented large-scale, high-quality audio and video capture, streaming, and storage directly from smartphones.
- 197. Based on publicly available technical specifications, Uber's internal estimates<sup>262</sup>, and commercial cloud pricing, <sup>263</sup> the estimated monthly cost to support a global in-app audio and

<sup>&</sup>lt;sup>256</sup> Twitch Blog. Twitch.tv. [accessed 2025 Aug 17]. https://blog.twitch.tv/en/

<sup>&</sup>lt;sup>257</sup> Home. AlfredCamera Blog. [accessed 2025 Aug 17]. https://alfred.camera/blog/

<sup>&</sup>lt;sup>258</sup> TikTok statistics - everything you need to know [May 2024 update]. Wallaroo Media. 2024 May 7 [accessed 2025 Sep 2]. https://wallaroomedia.com/blog/tiktok-statistics (reports the TikTok app has been downloaded over 2.7 billion times by December 2020); Kates K. How many people are on TikTok? Fourthwall.com. 2025 Mar 26 [accessed 2025] Sep 2]. https://fourthwall.com/blog/how-many-people-are-on-tiktok (reports the platform had approximately 700 million users in 2020)

<sup>&</sup>lt;sup>259</sup> Singh S. How many people use snapchat in 2025? (Users Statistics) DemandSage. 2025 Aug 28 [accessed 2025 Sep 2]. https://www.demandsage.com/snapchat-users/ (reports daily active users in 2020 of 265 million)

<sup>&</sup>lt;sup>260</sup> Microsoft Teams Grew Over 90% in 2020 Due to Pandemic; 145M Daily Active Users in 2021. WorkFlow. 2021 Jun 29 [accessed 2025 Sep 2]. https://workflowotg.com/microsoft-teams-grew-over-90-in-2020-due-to-pandemic-145m-daily-active-users-in-2021/ (reports Microsoft Teams grew from 44 million Daily Active Users in March 2020 to 145 million in April 2021)

<sup>&</sup>lt;sup>261</sup> Turk V. Zoom took over the world. This is what will happen next. WIRED. 2020 Aug 6 [ accessed 2025 Sep 2]. https://www.wired.com/story/future-of-zoom/ (Zoom reported as hitting 300 million daily active users as of April

<sup>&</sup>lt;sup>262</sup> UBER JCCP MDL 003724020

<sup>&</sup>lt;sup>263</sup> AWS pricing from 2020 to 2025 is available on web.archive.org – for example this 2020 price sheet for S3 -Amazon S3 pricing. Archive.org. [accessed 2025 Sep 2]. https://web.archive.org/web/20200324070218/ https://aws.amazon.com/s3/pricing/

video recording system for Uber's 2021 ride volume (770 million rides annually, averaging 20 minutes each) can be calculated using realistic and conservative assumptions. For video, a bit rate of 0.5 Mbps—consistent with approximately 360p (640×360) resolution at 30 frames per second—is supported natively on both iOS via AVFoundation<sup>264</sup> and Android via the MediaRecorder API.<sup>265</sup> At this bitrate, using H.264/AVC compression, the recorded footage can preserve sufficient detail for identifying individuals, facial expressions, clothing patterns, and physical interactions, while maintaining low storage requirements (often used for video surveillance systems<sup>266</sup> and first responder mobile and wearable devices),<sup>267</sup> and was supported on iOS and Android devices by 2020. For audio, my calculation is based on a 64 kbps AAC stream, which is a standard for mobile voice capture. This is suitable for low-delay speech transmission in mobile and surveillance contexts.<sup>268</sup> These levels are accepted for applications requiring clarity for documentation, such as video calls, home security, and livestreaming.

198. In my opinion, 1080p resolution is not necessary for safety incident response. While 1080p (Full HD) video offers high visual fidelity, asserting that footage below this resolution—such as 360p or 720p—is unusable for safety incident response lacks both technical and empirical support. Peer-reviewed studies, industry standards, and public safety deployments

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<sup>&</sup>lt;sup>264</sup> AVCaptureVideoDataOutput. Apple Developer Documentation. [accessed 2025 Aug 17]. https://developer.apple.com/documentation/avfoundation/avcapturevideodataoutput

API reference. Android Developers. [accessed 2025 Aug 17]. <a href="https://developer.android.com/reference/android/media/Media/Media/Recorder">https://developer.android.com/reference/android/media/Media/

<sup>&</sup>lt;sup>266</sup> Kau L. J., Tseng C. K., & Lee M. X. (2025). Perception-Based H.264/AVC Video Coding for Resource-Constrained and Low-Bit-Rate Applications. Sensors (Basel, Switzerland), 25(14), 4259. <a href="https://doi.org/10.3390/s25144259">https://doi.org/10.3390/s25144259</a>

Howell G., Ledgerwood S., et al. (2022) Security Guidance of First Responder Mobile and Wearable Devices. National Institute of Standards and Technology. https://doi.org/10.6028/NIST.IR.8235

<sup>&</sup>lt;sup>268</sup> AAC Codec for Packet-based Streaming. 3GPP TS 26.403 V18.0.0 (2024) 3<sup>rd</sup> Generation Partnership Project; Technical Specification Group Services and System Aspects; General audio codec audio processing functions; Enhanced aac Plus general audio codec; Encoder specification; Advanced Audio Coding (AAC) part (Release 18). 3GPP.vhttps://www.3gpp.org/ftp/Specs/archive/26 series/26.403/26403-i00.zip 3GPP Specification TS 26.403

validate that lower-resolution video (e.g., 360p at 0.5 Mbps using H.264/AVC) can be functionally effective for incident analysis, especially when optimized for mobile environments. <sup>269</sup> I calculate the cost per ride below for mandatory audio and video streamed recording at three resolutions: 360p, 720p, and 1080p.

199. Both audio and video streams could be encrypted on-device after capture, using platform-native cryptographic facilities—such as securing encryption keys in Apple's Data Protection APIs<sup>270</sup> or Android's Keystore System, <sup>271</sup> then encrypting recordings post-capture. This would allow recordings to be inaccessible to the driver or rider, and only decryptable for legitimate safety investigations, consistent with privacy-forward design principles.

In the deposition of Mariana Esteves taken August 28, 2025, Uber testified about 200. the in-app video recording in use in 2025: "The in-app video recording technology, it's controlled by both drivers and Uber. It's controlled by drivers in the sense that they are required to opt in and allow camera access, but it's also controlled by Uber in the sense that we control the software behind it that encrypts the file in the driver's phone, maintaining the privacy of everyone involved, and allows the driver to only access it if they need to submit it to an Uber investigator."<sup>272</sup> It is my opinion, while this opt-in and post-incident submission model provides the benefit Uber measured in its internal studies, it does not fully achieve the "bystander intervention" impact that Uber's own documents report as "proven to work." To optimize the product design, taking full advantage of the technology available at the time, the system I modeled does not rely solely on the driver's

<sup>&</sup>lt;sup>269</sup> References in ¶ 197 *supra* 

<sup>&</sup>lt;sup>270</sup> Galindo D, Liu J, Stone CM, Ordean M. SoK: Untangling file-based encryption on mobile devices. arXiv:3222.12456 [cs.CR]. 2021. http://arxiv.org/abs/2111.12456

<sup>&</sup>lt;sup>271</sup> Android keystore system. Android Developers. 2025 Apr. 17 [accessed 2025 Sep 2]. https://developer. android.com/privacy-and-security/keystore

<sup>&</sup>lt;sup>272</sup> Deposition of Mariana Esteves (Aug 28, 2025), at 127:16-128:4

<sup>&</sup>lt;sup>273</sup> *Id.* at Exhibit 2015 (Bates No. UBER\_JCCP\_MDL\_000251113, at 000251113.0004)

discretionary decision to submit a recording, but instead streams encrypted audio and video as it is captured,<sup>274</sup> with necessary buffering to handle signal loss during trips—capabilities that were already demonstrated at Uber's scale in 2020 in the technologies I enumerated in ¶ 196 *supra*. I have modeled below the costs using the 2025 AWS pricing guides of a mandated audio and video recording feature designed to operate in this streaming mode. It is my opinion that the 2020 cost would have been between 1.2x and 1.6x more expensive.

201. In this analysis, I considered the primary ongoing costs to capture, store, retrieve, and transcode the audio and video captured from a phone camera to the cloud. I did not consider the one-time costs to design, develop, and implement the feature, nor the ongoing software maintenance costs, as, in my opinion, at Uber's scale, those would not have had an impact on the determination of feasibility.

202. Storing ride video and audio recordings for thirty (30) days for all rides, and forty-five (45) days for those rides representing the highest 5% of risk for sexual assault as calculated by Uber's Safety Risk Assessed Dispatch model, using Amazon S3 Standard-IA at \$0.0125/GB-month<sup>275</sup> (with a 30-day minimum per object), results in a billed storage volume of approximately 4,812 TB of video and 616 TB of audio per month at 0.5 Mbps and 64 kbps respectively. Applying the 1.025 retention multiplier for the extended 45-day storage of the top 5% of rides, the monthly storage cost is approximately \$69,553 at the 0.5 Mbps baseline. At 1.5 Mbps (720p) and 2.5 Mbps

<sup>&</sup>lt;sup>274</sup> From a technical perspective, video evidence is most effectively preserved when it is streamed in real time to a secure server, with local recording serving only as a backup in the event of temporary network failure. A design relying solely on local, on-device storage is inherently fragile: recordings can be deleted, corrupted, or destroyed (for example, if a device is lost, damaged, or discarded). Streaming ensures continuity of the evidentiary record and supports an unbroken chain of custody, independent of later questions about access. Comparable solutions already existed by 2020: for example, AlfredCamera—a widely adopted home security application—enabled continuous streaming from consumer smartphones to secure cloud storage, mitigating risks of tampering or loss (see *supra* ¶ 195). This analogy highlights that the primary purpose of such systems is the preservation of evidence itself, which protects both riders and drivers by minimizing the risk of inadvertent loss or intentional deletion.

<sup>&</sup>lt;sup>275</sup> Amazon S3. Amazon.com. [accessed 2025 Sep 2]. <a href="https://aws.amazon.com/s3/pricing/">https://aws.amazon.com/s3/pricing/</a>

(1080p), monthly storage rises proportionally to roughly \$192,873 and \$316,193, respectively. For an audio-only recording option (64 kbps AAC), monthly storage is approximately 616 TB, costing about \$9,133.

203. For investigative review, transcoding the retrieved subset is well-served by AWS Elemental MediaConvert (Basic tier),  $^{276}$  which charges per normalized minute (NM) (SD = 1× NM; HD  $\leq$ 1080p = 2× NM).  $^{277}$  Under the postulate that 0.1% of rides require investigation (per Uber's documents),  $^{278}$  and investigators process  $\approx$ 1,283,333 minutes/month. That equals  $\approx$ 1.28M NM (SD)or  $\approx$ 2.57M NM (HD). Using AWS's tiered NM rates (\$0.0075 / \$0.0053 / \$0.0038 per NM), transcoding is  $\approx$ \$6,597/month for SD outputs and  $\approx$ \$11,473/month for HD outputs.

204. Retrieving that 0.1% of video and audio from S3 Standard-IA<sup>279</sup> (retrieval \$0.01/GB) costs  $\approx $54.29/month$  at 0.5 Mbps ( $\approx 4,812.5$  GB video + 616.0 GB audio). Retrieval scales linearly with bitrate to  $\approx $150.54/month$  at 1.5 Mbps and  $\approx $246.79/month$  at 2.5 Mbps. (Incloud review avoids Internet egress charges; downloads outside AWS would add standard data-transfer-out fees.)

205. Combining storage + retrieval + transcoding, the total monthly cost at 2025 pricing is  $\approx$ \$76,204 at 360p (0.5 Mbps),  $\approx$ \$204,497 at 720p (1.5 Mbps), and  $\approx$ \$327,913 at 1080p (2.5 Mbps). On a per-ride basis ( $\approx$ 64.2M rides/month), that is  $\approx$ \$0.0012 per ride at 360p,  $\approx$ \$0.0032 per ride at 720p, and  $\approx$ \$0.0051 per ride at 1080p. For audio-only recording, the combined monthly

AWS Elemental MediaConvert Pricing. Amazon.com. [accessed 2025 Sep 2]. https://aws.amazon.com/mediaconvert/pricing/

<sup>&</sup>lt;sup>277</sup>AWS Elemental MediaConvert bills in "normalized minutes" (NM), which are a standard unit of measure used to price video transcoding work. One NM equals one minute of standard-definition (SD) video transcoding. Higher resolutions are weighted more heavily: one minute of high definition (HD, up to 1080p) counts as two NM, and one minute of ultra-high definition (UHD/4K) counts as four NM. This system ensures that higher-resolution, more compute-intensive jobs are billed proportionally. For example, 100 minutes of SD video equals 100 NM, while 100 minutes of HD video equals 200 NM.

<sup>&</sup>lt;sup>278</sup> UBER JCCP MDL 000171092 at 000171095

<sup>&</sup>lt;sup>279</sup> Amazon S3. [accessed 2025 Aug 17] <a href="https://aws.amazon.com/s3/pricing/">https://aws.amazon.com/s3/pricing/</a>

cost is  $\approx$ \$15,731, or  $\approx$ \$0.0003 per ride. Even with a 1.6x multiplier back to 2020, this analysis still supports mandated recording.

Estimated Marginal Monthly Costs of Global In-App Audio & Video Recording at Scale (2021 Ride Volume: ~64.2 million rides per month, 770 million annually)

Video	Video	Audio	Monthly	Transcoding	Retrieval	Transcoding	Monthly	Cost per
Resolution <sup>280</sup>	Bitrate	Bitrate	Storage	Minutes	(USD)	(USD)	Cost	Ride
	(Mbps)	(kbps)	(TB)	(M)			(USD)	(USD)
360p	0.5	64	4,812 (v) +	1.28	\$54	\$6,597	\$76,204	\$0.0012
			616 (a)					
720p	1.5	64	14,436	2.57	\$151	\$11,473	\$204,497	\$0.0032
•			(v) +					
			616 (a)					
1080р	2.5	64	24,060	2.57	\$247	\$11,473	\$327,913	\$0.0051
-			(v) +					
			616 (a)					
Audio	Audio	64	616 (a)	1.28	\$0.74	\$6,597	\$15,731	\$0.0003
	only							

206. These calculations demonstrate that the cost of mandated in-app audio or video recording would have been less than one cent per ride across all modeled scenarios. For a company that previously charged riders a \$1 "Safe Rides Fee," which Uber later admitted was not used exclusively for safety initiatives, <sup>281</sup> the actual cost of implementing a feature tied directly to reducing sexual assaults and misconduct between Uber drivers and riders, as matched by Uber, was a fraction of that amount. In my opinion, this underscores that Uber could have funded the

<sup>&</sup>lt;sup>280</sup> To place these resolutions in context, 360p is a standard-definition format that already provides substantially greater clarity than VHS tapes, which were roughly equivalent to 240p. 720p is high definition and exceeds the resolution of commercial DVDs (≈480p). 1080p, or "Full HD," provides additional sharpness but is not necessary for identifying individuals, facial expressions, or interactions in the context of incident review. These consumer comparisons underscore that even the lowest-cost option modeled here (360p video with audio) would have been technically sufficient for documenting what occurred on a trip.

<sup>&</sup>lt;sup>281</sup> See below ¶¶ 207 – 209

deployment of audio and video recording many times over while still charging riders far less than what it represented as a safety fee.

207. In 2014, Uber introduced a \$1 "Safe Rides Fee," which was a surcharge added to each UberX ride. 282 Uber described that the fee supported various safety measures, including federal, state, and local background checks, regular vehicle inspections, driver safety education, and the development of safety features within the app. 283 However, internally, Uber executives discussed how the "Safe Rides Fee" was not used exclusively for safety measures. 284

208. In late 2014, class action complaints were brought against Uber alleging that Uber misled riders to believe that the Safe Rides Fee was exclusively used for safety. <sup>285</sup> Plaintiffs also alleged that some of Uber's representations about safety, such as "safest ride on the road," were misleading. <sup>286</sup> In 2017, Uber resolved these lawsuits and agreed to rename the "Safe Rides Fee" as a "Booking Fee" and agreed to explicitly not use certain safety-related language in its advertising. <sup>287</sup>

209. Uber agreed to a \$32.5 million settlement and committed not to use terms like "best available," "industry leading," "gold standard," "safest," or "best-in-class" regarding their background checks in commercial advertising.<sup>288</sup> Additionally, Uber would refrain from describing its rideshare services as the "safest ride on the road," "strictest safety standards

<sup>&</sup>lt;sup>282</sup> UBER-MDL3084-000035044, UBER-MDL3084-000048180.

<sup>&</sup>lt;sup>283</sup> UBER-MDL3084-000035044.

<sup>&</sup>lt;sup>284</sup> UBER-MDL3084-000046507, UBER-MDL3084-000043264 at 000043265.

<sup>&</sup>lt;sup>285</sup> UBER JCCP MDL 001731878 at 001731880.

<sup>&</sup>lt;sup>286</sup> *Id*.

<sup>287</sup> Id

<sup>&</sup>lt;sup>288</sup> *Id.* at 001731879, 001731881.

possible," "safest experience on the road," "best in class safety and accountability," "safest transportation option," or "background checks that exceed any local or national standard." <sup>289</sup>

- The cost modeling presented above<sup>290</sup> is derived from publicly available technical 210. specifications, Uber's own internal estimates disclosed in discovery, and standard commercial cloud storage and processing rates. These inputs are consistent with industry norms for large-scale video and audio storage, retrieval, and transcoding. The calculations use conservative assumptions for bitrate, compression, storage duration, and retrieval rates, all of which are technically feasible on consumer smartphones and in commercial cloud environments as of 2020. Even at a factor of 125x<sup>291</sup> my calculated costs, the ongoing cost of mandated streaming audio and video recording would have been less than the \$1 "Safety Fee."
- 211. In addition to the three video resolutions, I also considered an audio-only recording option at 64 kbps. At Uber's 2021 ride volume, this would require storing approximately 616 TB of audio data per month, with retrieval and transcoding adding incremental costs. The combined monthly cost of audio-only recording is roughly \$15,731, or about \$0.0003 per ride. This demonstrates that audio recording alone—without video—was technically and economically feasible at scale as of 2020.
- 212. While lower-end phones—especially those with limited RAM or slower CPUs might struggle with demanding tasks like live video streaming, mobile platforms enable app

<sup>290</sup> My cost modeling focused on the principal recurring charges to capture, store, retrieve, and transcode audio and

<sup>&</sup>lt;sup>289</sup> *Id.* at 001731881.

video recordings from the phone to the cloud. In running the analysis through AWS's publicly available cost modeling tools, I identified a few additional, smaller line items (such as API requests, monitoring, and minor metadata storage) that together had no material impact on the overall analysis or my opinions. While there are other categories of costs identified in the above ¶ 201, in my professional judgment the combination of very small incremental costs and the demonstrated technical capabilities make it more likely than not that Uber could have deployed such a system at scale as of 2020.

<sup>&</sup>lt;sup>291</sup> 1.6x on .0051 scaling 2025 pricing back to 2020 calculates to 125x to get to \$1

developers to mandate minimum hardware support using declared capabilities and OS version requirements to ensure reliable performance.<sup>292</sup> If Uber had mandated audio and video recording streaming, they could have defined a minimum standard for phones that could download and operate the Uber driver app.

213. In my opinion, based on my review of Uber's internal documents, combined with my professional experience and knowledge of smartphone capabilities between 2020 and 2025, Uber had the technical ability to control camera and audio recording features within its app in response to contextual triggers. For example, Uber could have used GPS signals to detect when a driver lingered after a trip or when both the Uber driver and rider remained at a location other than the destination. These events could have automatically triggered audio or video recording at Uber's discretion. Uber had control over when the in-app recording on the rider or driver app was turned on. Scholarly<sup>293</sup> and applied engineering research<sup>294</sup> confirms that event-based recording systems—often used in surveillance or mobile sensing—can be activated by contextual triggers such as motion detection or location changes, which supports the technical feasibility of Uber implementing targeted recording mechanisms without establishing continuous recording.

<sup>&</sup>lt;sup>292</sup> All mobile phones available in 2020 could not handle the storage or operating system requirements sufficient to implement this feature. That said, mobile platforms enforce minimum device standards. On Android, Google requires devices to come with at least 32 GB of internal storage to run or be upgraded to Android 15, and enterprise-certified devices under the Android Enterprise Recommended program must have ≥ 32 GB storage, 3 GB RAM, and run Android 12 or later. In the iOS ecosystem, only selected recent iPhone models can receive current iOS versions (e.g., iOS 16 is supported only by Post-2017 devices), and the process of installing major iOS updates generally requires 16-20 GB of free space, further ensuring a performance and storage baseline for devices in active use. Snyder B. Google raises Android 15's onboard storage requirements to 32GB. Androidcentral. 2025 Apr 14 [accessed 2025 Sep https://www.androidcentral.com/apps-software/android-os/google-raises-android-15s-onboard-storagerequirements-to-32gb; How Much Storage is Required to Install iOS 18 or iPadOS 18? OSXDaily, 2024 Oct 11 [accessed 2025 Sep 8]. https://osxdaily.com/2024/10/11/how-much-storage-is-required-to-install-ios-18-or-ipados-

<sup>&</sup>lt;sup>293</sup> Khalaf HA, Tolba AS, Rashid MZ. Event triggered intelligent video recording system using MS-SSIM for smart home security. Ain Shams Engineering J. 2018 Dec 9(4):1527-1533 [accessed 2025 Sep 8]. https://www.sciencedirect.com/science/article/pii/S2090447916301435

<sup>&</sup>lt;sup>294</sup> Donovan T, et al. Remote Ecological Monitoring with Smart Phones and Tasker. J FISH & WILDLIFE MGMT. (2021) 12(1):163-173. [accessed 2025 Sep 25]. https://doi.org/10.3996/JFWM-20-071

214. Uber also possessed the technical ability to monitor recording features on its apps. Uber has demonstrated the ability to track both signups and usage metrics for their "Record My Ride" feature through its engineering and data science teams. This implies the ability to consider active recording as a condition for driver/rider matching, as well as including a status of active recording in high-risk matching algorithms like Safety Risk Assessed Dispatch.<sup>295</sup>

215. From the earliest pilots conceived and developed in just a few months in 2016, to 2024 being called the year of "expansion and improvement" and 2025 enumerated as the year of "customization and innovation," Uber's timeline for audio and video recording stands in stark contrast to its demonstrated ability to design, build, and scale other complex technical systems in just 12 months, such as its original rider and driver applications. As discussed *supra* in \$\mathbb{1}\$ 183, Uber's own pilot data documented statistically significant reductions in verbal IPC and directional reductions in physical IPC tied to the presence of cameras. In my opinion, the extended delay is best explained not by technical barriers but by Uber's decisions to prioritize cost savings, growth, and competitive pressures over the timely adoption of safety measures that its own pilots and studies showed had measurable safety benefits.

216. Uber possessed the technological capacity to deploy in-app audio and video recording at scale no later than 2020. As demonstrated in its pilots, Weekly One-Pagers, and its own patent filings, the core technical capability existed years before widespread rollout. The delay was therefore not a function of engineering feasibility but of Uber's strategic choice to deprioritize safety features in favor of growth, legal positioning, and stated reputational considerations. In my

<sup>&</sup>lt;sup>295</sup> Deposition of Andi Pimentel (Mar 27, 2025), at 408:18-413:6

<sup>&</sup>lt;sup>296</sup> UBER JCCP MDL 000475211

<sup>&</sup>lt;sup>297</sup> Hoenig H. The History of Uber. INVESTOPEDIA. (2025 Feb 24) [accessed 2025 Sep 25]. https://www.investopedia.com/articles/personal-finance/111015/story-uber.asp

opinion, this represents a departure from industry-standard product development practices. When a company has documented evidence that a feature is more likely than not to significantly reduce incidents of interpersonal conflict, including sexual assault and misconduct, standard industry practices would call for prioritizing such a feature. Instead, Uber slowed adoption despite clear internal proof of efficacy and the existence of commercially feasible technical solutions.

217. Overall, my opinions in this Opinion 4 are based on standard engineering methods: identification of requirements, matching requirements to proven technical capabilities, and application of those requirements and proven technical capabilities to commercially verifiable marginal cost models. The underlying calculations are transparent and reproducible using the stated assumptions and cited data sources. This technical documentation demonstrates that by 2020, Uber had the capacity on its app, and without requiring separate video and audio recording equipment, to record encrypted video and audio for a vast majority of rides—including audio-only, which could be deployed at a fraction of the cost of video—while restricting access to legitimate investigative needs to address privacy issues, <sup>298</sup> and monitoring feature activation as a condition of driver-rider matching.<sup>299</sup> Despite this mature technological landscape, Uber's leadership cited

<sup>&</sup>lt;sup>298</sup> My opinion in this section addresses only the technical feasibility of in-app video and audio recording on consumer smartphones and the ability to model reasonable cloud-storage and processing costs at Uber's scale. I do not opine on legal or regulatory issues relating to privacy, wiretapping, or consent laws. In the United States, these vary by jurisdiction: some states follow "one-party consent" laws (where recording is permissible if one participant in the conversation consents), while others require "two-party" or "all-party consent" (where every participant must agree to the recording). Comparable consent requirements also exist internationally, often with stricter data protection frameworks. Any deployment of the technologies discussed here would therefore need to be assessed for compliance with applicable privacy and consent laws in the relevant jurisdictions.

<sup>&</sup>lt;sup>299</sup> Even if there is doubt about the feasibility of continuous video recording, an alternative approach would have been to use the passenger-facing camera to capture a still image every 30 seconds, synchronized with the encrypted audio stream. This would create a lightweight visual log of ride events while reducing storage and bandwidth requirements by orders of magnitude. Such image-plus-audio capture still provides investigators with a reliable timeline of occupants, physical interactions, and material events during a ride.

non-technical barriers (employment law)<sup>300</sup> (i.e., concerns that mandating video/audio may undermine arguments that drivers were not employees) as the reasons for the slow and limited rollouts. From a purely technical standpoint, the deployment of such a system at a global scale was feasible no later than 2020.<sup>301</sup>

Opinion 5: Uber's internal analyses documented that matching women riders with women drivers was not only technically feasible but also associated with reduced incidents of sexual assault and misconduct. Despite these internal analyses, Uber delayed and constrained the rollout of a feature matching women drivers with women riders for nearly a decade, prioritizing growth and legal-risk avoidance over the timely adoption of safety features its own studies indicated could mitigate foreseeable risks.

Uber's internal documents describe a series of initiatives focused on pairing women 218. riders with women drivers—referred to internally as Women-to-Women ("W2W") matching. These initiatives took two primary forms: (1) programs that allowed women drivers to accept rides only from women riders, and (2) programs that let women riders request a woman driver. In both models, the core idea was the same: that placing two women together in a vehicle could significantly reduce the risks of interpersonal conflict ("IPC"), including incidents of sexual assault and sexual misconduct between Uber drivers and riders matched by Uber. The internal studies and pilot programs that follow consistently show improved safety outcomes when W2W matching was used and confirm that the safety benefits of this approach were both real and technically feasible.

<sup>300</sup> See Deposition of Andi Pimentel (Mar 27, 2025) in its entirety, also see 314:24-317:6, 327:23-329:18, 344:14-351:17, 377:3-9, 379:18-381:18, 416:6-418:18; 439:19-25

<sup>&</sup>lt;sup>301</sup> It is my opinion, from a purely technical and cost-feasibility perspective, the deployment of in-app recording could have begun well before 2020 using less complex alternatives to continuous encrypted video capture. Pre-2020 consumer smartphones supported technically feasible methods such as shorter video clips, audio-only recordings, event-triggered recording (e.g., upon rider or driver pressing an in-app safety button), or periodic still-image capture, all requiring significantly less bandwidth and storage than continuous video streams. After 2020, these fallback methods remained viable as lower-cost or lower-complexity approaches to supplement continuous recording. This opinion is offered strictly as a technical and economic feasibility analysis, and does not address questions of policy, liability, or legal sufficiency.

219. One of the earliest Uber documents I reviewed that addressed pairing W2W was a 2015 presentation titled "*Project XX*." The document emphasized that women are the future of Uber's growth, both as riders and as drivers,<sup>302</sup> and acknowledged that "our current state is not true to Uber's mission or culture. It is our obligation to fix our current issues and build the road towards a fully inclusive, trusted, and empowering product."

220. One of the first internal studies I identified was a ride option called "UberWOMEN," which was created for admin/employees only in Mexico City in December 2017. The goal of the test was to assess the impact on the marketplace and rider experience. During the test, 89 employees made 501 ride requests, which were received by 201 unique women drivers. The test reported poor marketplace results with high cancellation rates and long wait times. Focus groups found women riders did not feel safer with women drivers because of concerns about women drivers being less skillful and a sentiment that it is more dangerous for two women to be alone, making them a target by a third party. 303

221. Women Rider Preference (Women+ preferred) was initially launched in Saudi Arabia in 2018 as an option for women to drive in Uber's transportation network when the country ended a ban on women driving. Research conducted in February 2018 revealed that 56% of women would be interested in driving for Uber; however, this number increases to 67% when they are asked about driving with a female-only rider option. In a subsequent study, 74% of women prospects said they would only be interested in transporting women. As the feature was rolled out, incident rates between Uber drivers and riders were measured, as was safety perception measured

<sup>&</sup>lt;sup>302</sup> Deposition of Danielle Sheridan (May 16, 2025), Exhibit 3811 (Bates No. UBER\_JCCP\_MDL\_000434414, at 00434415)

<sup>&</sup>lt;sup>303</sup> Deposition of Rebecca Payne (Apr 2, 2025), Exhibit 2532 (Bates No. UBER\_JCCP\_MDL\_002627669, at 002627679)

in the driver in-app survey, along with marketplace and ratings metrics. The technology to enable the feature, including matching and the machine learning gender identification model, was all developed in a matter of months.<sup>304</sup>

Core to all internal studies involving matching women riders with women drivers 222. was Uber's "Gender Inference Framework." The framework starts with gender mapping data derived from the extensive database of driver gender documents.<sup>306</sup> Across the world, drivers submitted documents that disclose their legal gender, and the relationship between the country, name, and gender is established. According to the Gender Inference Framework, that data identifies approximately 85% of US rider genders by which "Prevalent names will all be identifiable in pre-existing documentation" and "Compare P(male | name) to P(female | name) to understand the degree to which a name is more likely to be male or female."<sup>307</sup> After evaluating this extensive data, a Machine Learning/Large Language Model is used to identify the approximately 15% remaining names for US riders. "ML can distinguish whether a name is inherently male or female versus unisex, even if the name is uncommon in driver documentation" and "No high-latency requirements enables use of LMM or in-house model." Uber's documents describe the benefits of this approach as "Inclusive, Defensible, Measurable, and Scalable." <sup>309</sup>

<sup>309</sup> *Id*.

<sup>&</sup>lt;sup>304</sup> UBER JCCP MDL 002737362

<sup>&</sup>lt;sup>305</sup> Deposition of Sachin Kansal (May 28, 2025), Exhibit 923 (Bates No. UBER JCCP MDL 003040649, at 003040842)

<sup>&</sup>lt;sup>306</sup> Self-reporting of gender alone would be insufficient to protect the integrity of a W2W matching system. Without verification, a predatory male driver could misrepresent himself as female to gain access to women riders. Uber had greater control over driver onboarding than rider onboarding, and industry-standard risk practices would call for guardrails such as document-based gender confirmation or other verification methods before granting W2W access. <sup>307</sup> Deposition of Sachin Kansal (May 28, 2025), Exhibit 923 (Bates No. UBER JCCP MDL 003040649, at 003040842)

<sup>308</sup> Deposition of Sachin Kansal (May 28, 2025), Exhibit 923 (Bates No. UBER JCCP MDL 003040649, at 003040842)

223. The next market to roll out a women-matched-to-women feature was Brazil due to the extreme gender-based violence levels in the country. In an Uber article dated March 21, 2024, used as Exhibit 543 in the November 21, 2024, deposition of Nick Silver, at page 3/10, it documents: "How has the Women Preferred Safety Feature made an impact? Celeste: The feature is available to the earner community in more than 30 countries, 16 of them in Latin America. We launched in Brazil in 2019 and over 50 million rides have been completed using it, and between 6 PM and 12 AM is the time when usage is highest. Chris: Our research has found that this functionality has been highly appreciated, especially with drivers new to the platform. It allows female earners more time to earn and creates less hesitation in certain areas."310

A July 18, 2019, document regarding a Women Rider Feature Test in Brazil, Uber 224. wrote "visibility of and actual violence against women is growing in Brazil.....Women drivers in Brazil are very vulnerable to sexual violence and there is space for Uber to do more to protect them."311 The Brazil test of the women-rider-preferred product was conducted to assess its impact on safety outcomes, female driver sentiment, and supply. The first test was done over 7 weeks in 6 cities. The results of the internal study reported a reduction by 50% in reports of Sexual Assault/Sexual Misconduct, while ETA increased by approximately 1 minute. These results were labeled as "promising" and "preliminary". 312

A full-scale internal study run in Latin America between October 2020 and 225. November 2021 demonstrated the impact of the Women Rider Preference ("WRP") program. The Sexual Assault / Sexual Misconduct rate per million trips with WRP "on" was 4 vs 19 with WRP

<sup>&</sup>lt;sup>310</sup> Deposition of Nicholas Silver (Nov 21, 2024), Exhibit 543

<sup>311</sup> UBER JCCP MDL 002346497

<sup>&</sup>lt;sup>312</sup> UBER JCCP MDL 002262778, at 002262788

"off", which was indicated to be statistically significant, though the methodology for calculation was not disclosed. Of particular interest was the Serious SA/SM incident rate per million trips of 6.4 for male drivers, 7.4 for women drivers with WRP off, and 1.6 for women drivers with WRP on.<sup>313</sup> Despite Uber's internal studies that reported a reduction in SA/SM between Uber drivers and riders matched by Uber, Uber documents indicate that Uber decided not to launch WRP in the US in April 2021. The stated reason was legal risk in the wake of discrimination claims against the Uber Eats business.<sup>314</sup>

Detailed review of the series of weekly product review reports authored between 226. 2021 and 2023 by the Director of Product Management for Safety and Insurance, Mike Akamine, and presented to then-VP of Product, Sachin Kansal, ("Weekly One-Pagers") demonstrate that while there was a consistent focus under the "Women Earners" category as a strategic initiative with executive visibility, the phased expansion suffers from uncertainty about measurement and impact validation, resource contention with higher impact insurance cost savings programs and other growth initiatives, as well as stakeholders suggesting the program remain in a R&D phase for another 1-2 years with challenges to scope and timeline. The measured OKR for the Women+ Preferred program was the opt-in rate from a waitlisted group and not an improvement in Sexual Assault incident rates.<sup>315</sup>

Uber's confidential, non-public internal studies document that when women riders 227. and women drivers were matched, it led to a reduction in interpersonal conflict rates. In my opinion, the Weekly One-Pagers demonstrate a consistent pattern of de-prioritization of women

<sup>313</sup> UBER JCCP MDL 000491422 at 00491426

<sup>314</sup> Deposition of Rebecca Payne (May 13, 2025), Exhibit 2562 (Bates No. UBER JCCP MDL 002321306, at 002321317)

<sup>315</sup> UBER JCCP MDL 003212294

rider/driver initiatives in favor of other initiatives. In one instance, leadership explicitly suggested that "Women Earners should be in an R&D phase for the next 1–2 years before we go broader," with additional notes that "Carrol [Chang – Global head of driver/courier operations] continues to push on ways to reduce scope in this area." These strategic delays came despite the program's safety benefits and even as other areas—like insurance savings—were described as "our biggest bet for 2022". 317 Projects such as Trip Risk Pricing and efforts to "remove risky drivers" were prioritized based on potential financial impact: "Trip Risk Pricing will be our biggest bet... Removing risky drivers is another big intervention."318 Meanwhile, staffing and execution focus were also diverted elsewhere; critical road safety roles remained unfilled while team members were described as "stretched," and "can't distract Rafael from TfL work + MX OD." Even leadership hiring efforts reflected this imbalance, with one update noting that while "Srishti has been improving in the spotlight on Women Preferred," her impending maternity leave meant that another executive would "focus heavily on it as an IC," signaling limited leadership continuity for the initiative.<sup>320</sup>

A Women/NB Preferences for Riders PRD from Aug 2024 indicates that almost 10 228. years after Uber's first internal realization that a woman rider/woman driver product could provide

<sup>316</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 888 (Bates No. UBER JCCP MDL 001856383, at 001856388)

<sup>317</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 886 (Bates No. UBER JCCP MDL 002624257, at 002624259)

<sup>&</sup>lt;sup>318</sup> *Id*.

<sup>&</sup>lt;sup>319</sup> *Id.* at 002624258

<sup>320</sup> UBER JCCP MDL 003212294, at 003212304

significant benefits, Uber planned to do a first pilot launch of a Women rider-side gender preference product in the USA in March of 2025. 321, 322

229. Uber announced July 23, 2025, it is rolling out W2W in SF, LA, and Detroit in the coming weeks https://www.uber.com/newsroom/women-preferences/. In that announcement, Uber stated, "Of course, riders wanted the same choice. But making this work reliably—not just symbolically—required thoughtful design. Most drivers are men, so we've worked to ensure this feature is truly usable in different places around the world. We tested, listened, and refined it in markets like Germany and France, adapting the feature to real-world rider and driver behaviors. As a result, in a first for the industry, we're able to launch more reliable features that offer women riders multiple ways to be matched with a woman driver."323

230. In her August 28, 2025, testimony, Mariana Esteves confirmed that Uber had launched women-preference features "several years" earlier in other markets on the driver side, and that the rider-side preference is "new technology that we have just built and finished this year," with a U.S. pilot beginning in three cities. 324 She explained Uber "didn't have until recently...the

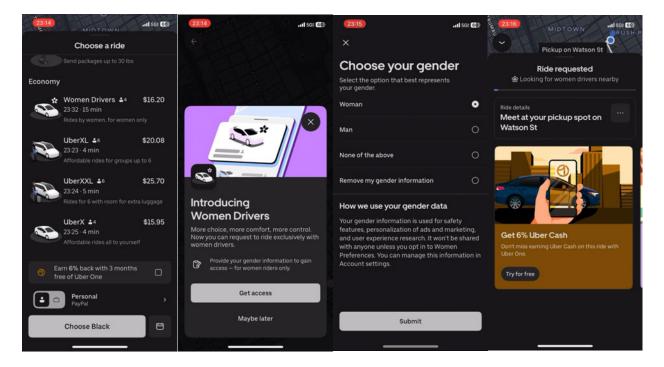
<sup>321</sup> UBER JCCP MDL 003219916

<sup>322</sup> Faced with competitive pressures from Lyft's similar offering, Women+ Connect, Uber was finally able to overcome the perceived legal hurdles that it cited as preventing moving forward with this meaningful tool to reduce Sexual Violence. Uber's Market research of Lyft's women found 85% agree the feature will make them feel safer about using rideshare, address their top safety concern and signal that the company is committed to safety; 50% say they would use a rideshare app more frequently if they had access to a women riders/drivers; and, 61% of women riders say they would wait 10 minutes or more for a ride with a women driver and 44% of women drivers would sacrifice more than 10% of their earnings for trips with women riders. UBER JCCP MDL 003040649, at 003041412 323 While Uber's initial pilots and large-scale deployments of the women-rider/women-driver matching feature occurred outside of the United States (e.g., Mexico City, Saudi Arabia, Brazil, and Latin America), Uber's decision in July 2025 to launch the feature in San Francisco, Los Angeles, and Detroit shows that the company itself treated the positive international findings as relevant to the U.S. context. In its Newsroom announcement, Uber explained that it had "tested, listened, and refined [the feature] in markets like Germany and France" before launching in the U.S., underscoring that the company viewed the safety benefits demonstrated abroad as transferable. (See link *supra* in ¶ 229). In my opinion, this supports the inference that Uber believed the reductions in interpersonal conflict and Sexual Violence observed internationally applied to its U.S. platform.

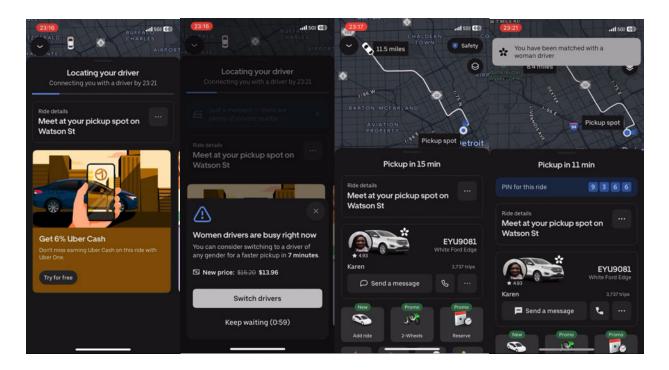
<sup>&</sup>lt;sup>324</sup> Deposition of Mariana Esteves (Aug 28, 2025), at 215:6-19

tech and the product that [made] the user experience good enough," emphasizing a concern that riders might be "frustrated that they would never get a match with women drivers."<sup>325</sup>

231. I was provided screenshots of a W2W ride matched on August 17, 2025, in the Detroit pilot. I added screenshots from that match between an Uber driver and a rider below:



<sup>325</sup> Deposition of Mariana Esteves (Aug 28, 2025), at 225:6-226:9



232. In my opinion, Esteves's characterization understates Uber's earlier technical readiness to operate a women-to-women matching feature in the United States. Uber's own materials since 2017 describe (i) a production-oriented gender inference framework used to support matching/dispatch, (ii) multiple international pilots demonstrating feasibility, and (iii) statistically significant reductions in incidents where Uber drivers sexually assault or commit sexual misconduct against riders when women riders are matched with women drivers. Concerns about rider experience and match rates were design and supply-management problems—solvable with standard levers (e.g., transparent wait-time disclosures, opt-in fallback preferences, time-of-day scoping, targeted recruitment/retention of women drivers, and city-by-city coverage rules)—rather than blockers to deployment. Given the years of documented feasibility and results abroad, the documented internal studies of W2W activity, and the screenshots from the US pilot, it is my opinion that the decision to limit U.S. availability until 2025 reflects a prioritization choice, not a lack of technical capability.

233. Based on my review of Uber's internal documents, I did not see evidence that Uber carried out a sustained U.S.-based program to "test, listen, and refine" the Women-to-Women (W2W) feature prior to its July 2025 launch announcement. The documents I reviewed show testing activity and safety analyses in Mexico City, Saudi Arabia, Brazil, and other international markets. Still, I did not identify comparable U.S. pilot studies focused on matching women riders with women drivers. Nor did I find internal records of structured efforts to recruit or materially increase the number of women drivers in the United States as a precursor to supporting a scaled W2W rollout. In my opinion, the available materials suggest that Uber's refinement of the feature relied primarily on international testing. At the same time, its U.S. operations did not document parallel recruitment or feature-validation efforts before the decision to launch.

studies, product documentation, prioritization records, screenshots, and incident analyses—that Uber designed, tested, and validated a technically feasible women-rider/women-driver matching option. Uber's internal analyses reported a statistically significant association between this feature and lower reported Sexual Assault/Sexual Misconduct incident rates outside of the United States (see ¶¶ 219–227). These findings are grounded in documented results of internal studies and internal metrics that can be reproduced using the materials disclosed in discovery. Within a reasonable degree of professional certainty in product development governance and technology lifecycle management, I conclude that Uber's decision-making—shaped by stated marketplace KPI tolerances and legal-risk considerations—did not follow risk-based prioritization practices that are standard for a transportation network that pairs drivers with riders, where technology design decisions can materially impact user safety. Industry practice calls for the timely scaling of

features associated with material harm reduction and for decision frameworks that explicitly weigh safety outcomes alongside business metrics.

Opinion 6: Uber's records show changes over time in the data collected from driver applicants, but a consistent superset of identifying and background information was available across the 2014-2024 period

- Uber documents detail the information collected (and not collected) as part of the 235. application to be an Uber driver.
- In a 2015 email, <sup>326</sup> Jordan Buettner, a Compliance Specialist at Uber, wrote, 236. "attached an updated flowchart that is now accurate as to our current BGC process," 327 which lists the data required for the applicant to be evaluated:
  - Full Legal Name a.
  - b. Date of birth
  - Address c.
  - Driver's License # d.
  - Driver's License State e.
  - f. Social Security Number
  - Copy of driver's license g.
  - Copy of registration h.
  - i. Copy of insurance
- In a 2017 response to the NJ Attorney General, 328 Uber identified the information 237. it collects:

<sup>326</sup> UBER JCCP MDL 001306135

<sup>&</sup>lt;sup>327</sup> UBER JCCP MDL 001306138

<sup>&</sup>lt;sup>328</sup> UBER JCCP MDL 000877845, at 000877846

- Prior to conducting the background check, [Uber] collects a copy of the a. prospective driver-partner's driver's license and their Social Security Number. The driver's license contains a photograph, the prospective driverpartner's full name, date of birth, address and zip code.
- b. Prior to being activated and permitted to accept rides, prospective driver partners also provide a photograph, email address, proof of insurance, vehicle registration and bank account information.
- In a 2019 document, Standing for Safety, <sup>329</sup> Uber listed the following information 238. as required as part of Driver pre-screening. In it Uber wrote, [the screening process] "requires an applicant's full name, date of birth, social security number, driver's license number, a copy of his/her driver's license, vehicle insurance, and a valid bank account."
- In a 2020 document titled "Uber Health Compliance Program Procedures," 330 Uber 239. wrote it collected the following information during the sign-up process:
  - a. Full name as it appears on the driver's license
  - Date of birth b.
  - c. Gender
  - d. Address
  - Unique identifier (Social Security Number) e.
  - f. Phone number
  - Email address g.

<sup>329</sup> UBER-MDL3084-000098869, at 000098934

<sup>330</sup> UBER JCCP MDL 000871862, at 000871863-64

- h. A document serving as proof of identity (Driver's license, passport, or national ID card)
- i. Profile photo
- j. Driver's license pulling the Name as shown, issue date, expiration date,
   license number, license class, address, and gender
- k. Vehicle insurance
- 240. In a 2023 "Uber for Business Safety Guide," 331 Uber lists the information it collects as part of Driver pre-screenings and documentation, stating, "Before a person is allowed to drive with Uber, they complete a screening process that requires their full name, date of birth, Social Security number, driver's license number, a copy of their driver's license, vehicle insurance and a valid bank account." Later in the document, Uber wrote that drivers must provide profile photos.
- 241. Another Uber document indicates the prospective Uber driver must additionally provide proof of vehicle registration and vehicle inspection before their first ride.<sup>332</sup>
- 242. Across the years and documents, the superset of information described is as follows:
  - a. Full Legal Name
  - b. Date of birth
  - c. Social Security Number
  - d. Bank account number
  - e. Phone number
  - f. Email address

<sup>&</sup>lt;sup>331</sup> UBER-MDL3084-000080831, at 000080851; 000080852-53

<sup>332</sup> UBER-MDL3084-000119317, at 000119322

- Proof of vehicle inspection g.
- Profile photo (or Selfie) h.
- Copy of driver's license i.
  - i. Name as shown
  - issue date ii.
  - iii. expiration date
  - license number iv.
  - license class v.
  - address vi.
  - vii. gender
- j. Copy of registration
- k. Copy of insurance
- Notably absent from the above is any attempt by Uber to collect the following 243. information and data from the applicant drivers (and to periodically update it): the driver's prior addresses in the US and in other countries, education history, work history and references, criminal history, personal references, and use of social media (and social media personal identifiers).

Opinion 7: I reviewed Uber's portfolio of Safety Features, defined as those that (1) were designed to influence riders' or drivers' perception of safety, which was critical to Uber's growth, or (2) were intended to provide direct protection against Sexual Violence. Based on Uber's records, only three features — Safety Risk Assessed Dispatch, Audio and Video Recording, and W2W — were supported by internal analyses where Uber documented reductions in Sexual Violence incident rates. By contrast, the other Safety Features (summarized in Exhibit C) were primarily evaluated against perception-based metrics (such as safety sentiment or feature awareness) rather than measurable reductions in incidents. It is my opinion that this governance approach reflects a prioritization of perception over prevention, inconsistent with industry standards for product development where foreseeable risks to physical safety exist.

244. Uber's internal documentation shows that the company developed and marketed numerous "Safety Features" (as described by Uber) over time, most of which were designed and evaluated for their effect on riders' and drivers' *perception* of safety rather than their actual ability to prevent incidents of sexual assault or sexual misconduct between Uber drivers and riders matched by Uber. Industry standards distinguish between *perception-oriented* features—which improve user confidence and brand trust—and *incident-reduction features*, which measurably decrease the occurrence of specific safety events.<sup>333</sup>

245. Based on the records I reviewed, only three features in Uber's portfolio—Safety Risk Assessed Dispatch, Audio and Video Recording, and W2W—were supported by documentation from internal studies showing a reduction in serious interpersonal conflict or sexual assault/misconduct incident rates between Uber drivers and riders matched by Uber. These features and a review of the documentation that supports my opinion are reviewed in Opinions 4, 5, and 6.334

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<sup>333</sup> This analytic distinction is well recognized in safety-critical industries. ISO 26262-1:2018 establishes a lifecycle framework for identifying hazards, assigning Automotive Safety Integrity Levels (ASILs), and validating system functions to ensure incident reduction rather than mere perception of safety. ISO 26262-1:2018 (Road vehicles — Functional Safety. 2018 [accessed 2025 Sep 24]. <a href="https://www.iso.org/standard/68383.html">https://www.iso.org/standard/68383.html</a>. By contrast, human-factors design literature emphasizes how product interfaces can shape perceptions of safety. Donald Norman's The Design of Everyday Things illustrates how visual cues and interface affordances reduce user anxiety and error by influencing mental models. (2013) [accessed 2025 Sep 24]. <a href="https://mitpress.mit.edu/9780262525671/the-design-of-everyday-things/">https://mitpress.mit.edu/9780262525671/the-design-of-everyday-things/</a>. Similarly, a recent systemic review regarding AI product assurance details how AI ethicists have explicitly defined "perceived safety" in user interfaces versus "realized safety" in algorithmic controls. Silva Neto AV, Camargo JB, Almeida JR, and Cugnasca PS. Safety Assurance of Artificial Intelligence-Based Systems: A Systematic Literature Review on the State of the Art and Guidelines for Future Work. IEEE Access. 2022 Jan [accessed 2025 Sep 8] <a href="https://www.researchgate.net/publication/366279549">https://www.researchgate.net/publication/366279549</a> Safety Assurance of Artificial Intelligence-Based Systems A Systematic Literature Review on the State of the Art and Guidelines for Future Work. Together, these sources underscore the difference between features that improve confidence and those that measurably reduce harm.

<sup>&</sup>lt;sup>334</sup> I do not opine on whether these Safety Features in fact reduced incidents of Sexual Violence. My opinion is limited to whether Uber's own records documented such outcomes and whether its evaluation practices were consistent with industry standards for risk-based product development.

By contrast, the remainder of the features Uber either promoted as part of its "Safety 246. Toolkit" (e.g., Safety Center, Share My Trip/Trusted Contacts, 911 Assistance, phone number anonymization, Verify Your Ride, Real-Time ID Check, Risk Zone Destination Alerts), or otherwise tracked in OKRs as having a safety perception impact, lacked internal testing data demonstrating their applicability and effect on the reduction of sexual assault or misconduct incidents. Instead, Uber's own planning documents, OKRs, and marketing briefs show that these features were tracked against perception-based KPIs—such as rider confidence, safety sentiment scores, and feature awareness—rather than tracked by metrics measuring actual reductions in incidents.

Features with no proven safety effect were promoted and scaled quickly, while features with measurable harm-reduction potential were slowed, limited in rollout, or left underfunded. This inversion of priorities is inconsistent with industry-standard governance, which requires that organizations allocate sustained resources to validated safety measures over brandoriented perception tools.

In Exhibit C<sup>335</sup> to this report, I provide a detailed review of these Safety Features, 248. including when they were introduced, Uber's stated goals for each, the nature of the results of internal studies performed on each, and the absence of documentation in the record that they produced measurable reductions in sexual assault or misconduct incidents.

<sup>335</sup> Exhibit C shows that Uber's safety features were introduced over time as follows: in 2014 Uber introduced phone number anonymization; in September 2016 it launched Real-Time ID Check ("Mutombo"); in 2017 Uber added address anonymization and the first version of Verify Your Ride, and introduced the Safe Dispatch Model (SDM); in May 2018 Uber rolled out the Safety Toolkit, which included the Safety Center, Share My Trip/Trusted Contacts, and 911 Assistance; in 2018 Uber deployed Rider First Trip v2, and later that year/September 2019 in the U.S. it launched RideCheck; in 2019 Uber also enhanced Verify Your Ride (PIN), began rolling out Audio Recording pilots, and introduced Women Rider Preference in Brazil and Latin America; in 2021, Uber added Rider Verification for anonymous payment methods (piloted in Chicago); in Q4 2022 it piloted in-app video recording and vendor-integrated Dashcams, expanding rollout in 2023; in July 2022 Uber began deploying its Safety Risk Assessed Dispatch; and, in 2023 it expanded in-app video recording and Dashcam integrations globally.

- 249. My second goal was to identify internally circulated OKRs by the Safety & Insurance division that measured a safety feature's impact on sexual assault incident rates. Across three years of OKRs internally circulated by the Safety & Insurance division, only one OKR, "SRAD prevented incidents Mobility (Sexual IPC)," measured the rate of sexual assault incidents directly.
- 250. In reviewing the remainder of Uber's safety feature investments, I found extensive product development documentation focused on increasing users' awareness and usage of safety features so that Uber drivers and riders would feel a higher sense of protection. By contrast, I could not find documentation of internal studies that most of the Safety Features were evaluated for their effectiveness in preventing sexual assaults, or that Uber properly distinguished between improving post-incident response and preventing incidents altogether.
- 251. Internal planning and design materials repeatedly emphasized elevating safety perception as necessary to overcoming a barrier to trip adoption:
  - a. the Safety Toolkit PRD<sup>337</sup> begins by stating that improving safety *perception* is key to increasing rides;
  - b. the Global Safety 2023 Roadmap<sup>338</sup> listed twice as many U.S. and Canada initiatives aimed at *perception* improvement compared to those focused on safety experience;
  - c. a presentation on the 911 feature documented that an SOS button makes drivers *feel* safer, supported by survey data;<sup>339</sup>

<sup>&</sup>lt;sup>336</sup> UBER\_JCCP\_MDL\_001856383, UBER \_JCCP\_MDL\_000897033, UBER\_JCCP\_MDL\_002624257, UBER\_JCCP\_MDL\_003212294

<sup>&</sup>lt;sup>337</sup> UBER JCCP MDL 000539226

<sup>&</sup>lt;sup>338</sup> UBER\_JCCP\_MDL\_002280908

<sup>339</sup> UBER JCCP MDL 002253382

- d. a marketing brief for "Safety Feature Awareness" included business objectives such as "Increase *perception* of 'Commitment to Safety' among Riders and Prospects, ultimately driving incremental trips" and prioritized features like Driver Screening, In-App Emergency Button, and Share Trip as "Reasons to Believe;"<sup>340</sup>
- e. a 2022 Safety Usage & Awareness KPI document<sup>341</sup> and the 2021 Safety Lifecycle Playbook<sup>342</sup> positioned features such as Driver Screenings, Emergency Button, Safety Toolkit, Audio Recording, Follow My Ride, and Verify Your Ride ("PIN") as critical to the Uber driver and rider *perception*, measuring effectiveness by awareness and engagement; and,
- f. the 2021 Safety Experience Framework likewise framed its overarching goal as forming a cohesive safety narrative, measuring new entry points by *perception, awareness, and interaction* rather than incident reduction. <sup>343</sup>
- 252. Among the documents I reviewed, the Weekly One-Pagers provided the most consistent record of internal safety prioritization. These reports summarized ongoing activities, feature rollouts, and performance tracking across all product lines in the Safety & Insurance portfolio, including Insurance Savings, Road Safety, Audio/Video Recording, Teen Safety, Account Sharing, Impersonation, Deactivations, Sexual Assault/Misconduct Programs, Identity Verification, Privacy Safeguards, Background Check Expansion, and Marketplace Risk

<sup>340</sup> UBER JCCP MDL 000107378

<sup>&</sup>lt;sup>341</sup> UBER\_JCCP\_MDL\_002631458

<sup>342</sup> UBER000146473

<sup>343</sup> UBER JCCP MDL 002094938

Reduction.<sup>344</sup> Across this multi-year record, only two features—Safety Risk Assessed Dispatch and the Safe Dispatch Model—were consistently tracked by OKRs<sup>345</sup> as reducing interpersonal conflict incidents, with Safety Risk Assessed Dispatch being the only feature explicitly tracked for reducing sexual assault–related incidents (Sexual IPC). While W2W and audio/video recording tools also demonstrated reductions in serious interpersonal conflict during documented internal studies, their ongoing OKRs focused on safety perception and rollout metrics rather than sustained incident-reduction measurement. This documentation forms part of the basis for my opinion that, although certain features showed promising results in internal studies, Uber's leadership placed little sustained focus on reducing sexual assault incidents through measurable interventions.

253. Based on my professional experience in product development, my review of Uber's internal documentation, and a structured evaluation against established industry standards, it is my opinion that while the company made some efforts to reduce serious sexual assaults, most safety features were implemented to enhance the perception of safety rather than measurably reduce incident rates. Only three features—implemented years after they were technically feasible (and underutilized once implemented)—had documentation of reducing sexual assault or misconduct incidents. Internal records and data from studies indicate a disproportionate focus on perception-driven initiatives, with fewer resources and less sustained measurement applied to features targeting actual incident reduction. While perception features drove awareness, confidence, and trip adoption, were not documented by Uber as addressing the underlying risks of SA/SM. The

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UBER\_JCCP\_MDL\_001856383, UBER\_JCCP\_MDL\_00897033, UBER\_JCCP\_MDL\_002624257, UBER\_JCCP\_MDL\_003212294

UBER\_JCCP\_MDL\_001856383, UBER\_JCCP\_MDL\_00897033, UBER\_JCCP\_MDL\_002624257, UBER\_JCCP\_MDL\_003212294 - see OKR and KPI tracking in the Weekly One-Pagers.

<sup>&</sup>lt;sup>346</sup> See *supra* ¶ 169 (S-RAD), ¶¶ 213 – 214 (video recording), ¶ 232 (WRP)

consequences of this approach were that features with documented incident-reduction potential were not systematically prioritized, funded, or measured for long-term safety outcomes.

254. As reviewed in Opinion 2, the company's internal documentation consistently reports that the primary business objective was sustained growth in ride volume—measured by total trips, trip frequency, market penetration, and user retention. Within Uber's transportation network, safety perception was treated as a critical enabler of growth. Planning and product requirement documents demonstrate that many safety features were conceived, evaluated, and prioritized not for their direct effect in preventing sexual assaults, but for their ability to influence user sentiment, increase trust, and reduce psychological barriers to ride adoption. Perception-based metrics used to evaluate safety initiatives included: (a) the percentage of Uber drivers and riders who agreed with statements expressing confidence in Uber's safety commitment; <sup>347, 348</sup> (b) sentiment-based survey questions about feeling safe when using the service; <sup>349</sup> (c) brand-level measures of perceived safety leadership; <sup>350</sup> and (d) proxy indicators such as Net Promoter Score ("NPS"), safety-driven churn, and trust scores—each tied to user acquisition and retention goals. <sup>351</sup>

255. While the company also tracked objective metrics such as serious sexual assault rates per million trips and subcategory targets for sexual misconduct and sexual assault, these appeared in a narrower operational context. The only recurring OKR in the safety division that measured reductions in sexual assaults was "SRAD prevented incidents – Mobility (Sexual IPC)." By contrast, perception-based KPIs appeared more frequently in OKRs, planning dashboards, and

<sup>347</sup> UBER JCCP MDL 000181466

<sup>&</sup>lt;sup>348</sup> UBER JCCP MDL 000320527

<sup>&</sup>lt;sup>349</sup> Deposition of Sachin Kansal (May 28, 2025), Exhibit 900 (Bates No. UBER JCCP MDL 000043200)

<sup>350</sup> Deposition of Mariana Esteves (Jul 15, 2025), Exhibit 1589 (Bates No. UBER JCCP MDL 000254469)

<sup>&</sup>lt;sup>351</sup> UBER JCCP MDL 000262677

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feature performance reviews, and were integrated into broader user engagement and growth

strategies.<sup>352</sup>

256. Overall, Uber's internal documentation, planning artifacts, internal study results,

and OKRs demonstrate a sustained emphasis on perception-focused safety features over those

designed to reduce serious interpersonal safety incidents. This emphasis is evident in how features

were scoped, tracked, and resourced—particularly through repeated references to perception-

based KPIs, survey-driven sentiment measures, and their integration into growth-driven planning

frameworks. For example, a 2022 internal KPI summary stated, "Safety Feature Awareness and

Usage drive engagement."353 These perception-driven initiatives were closely aligned with the

company's core business objective of sustained ride growth, whereas features specifically

targeting reductions in sexual assault were less frequently prioritized and, when implemented,

were not consistently incorporated into long-term OKRs or post-launch performance monitoring

systems.

257. Based on the documentation reviewed, my application of accepted product

development evaluation principles, and my professional experience in technology lifecycle

governance, it is my opinion that Uber prioritized perception-based safety features over incident-

reducing interventions. The basis for my opinion is my systematic review of company records,

comparative analysis against industry standards, and documented testing results, and reflects a

reasonable degree of professional certainty in the field of product development governance and

risk mitigation.

<sup>352</sup> UBER\_JCCP\_MDL\_001856383, UBER\_JCCP\_MDL\_003212294 UBER\_JCCP\_MDL\_00897033,

UBER\_JCCP\_MDL\_002624257,

353 UBER JCCP MDL 002631458

Opinion 8: As of September 2025 (the time of this report), Uber's Rider App still lacks a clear, dedicated, and intuitive reporting pathway for sexual assault and misconduct, instead requiring riders to use vague categories such as "driver behavior" or "other." This design does not meet industry standards for risk-sensitive applications where foreseeable risks to physical safety require clear and tested reporting flows. Uber's internal records further documented that Sexual Violence was underreported and that improved tagging and categorization could increase reporting fidelity, yet these insights were not incorporated into product changes.

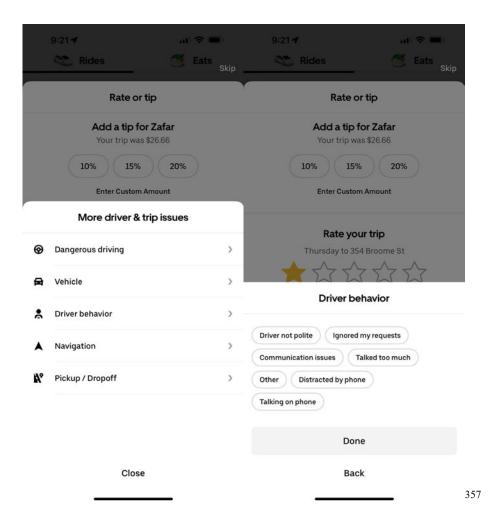
258. I was asked by Plaintiffs' counsel to evaluate Uber's Post Reporting Features, which enable riders to report Sexual Violence incidents during or after a trip with a matched driver. To evaluate, I conducted in-app walkthroughs of the Rider App in July 2025 and again in September 2025<sup>354</sup> (23 months after the commencement of this litigation) to test the reporting pathways available to riders. I reviewed Uber's internal records regarding reporting flows and tagging categories, which documented concerns about underreporting, 355 low ticket completion rates, and limitations in Uber's taxonomy for capturing Sexual Violence incidents.<sup>356</sup> In my professional experience, as supported by the ISO 31000 document on risk management, these steps represent core elements of an industry-standard PDLC in risk-sensitive applications.

259. As of September 2025, Uber's Rider App lacked a dedicated and intuitive reporting pathway for Sexual Violence, requiring riders to select vague categories such as "driver behavior" or "other." In my opinion, this design fell and falls short of accepted practices, which require foreseeable safety risks to be addressed with clear and usability-tested reporting flows.

354 Exhibit D, Uber Rider App screenshots of reporting pathways during trips, July and September 2025.

<sup>355</sup> Deposition of Hannah Nilles (May 5, 2025), Exhibit 3315 (UBER JCCP MDL 001101922) (noting "high likelihood of underreporting of incidents and behaviors on our platform" due to unintuitive reporting feedback flows, societal influences, and user distrust)

<sup>356</sup> UBER000129059 (Nov. 2018 internal safety personnel email exchange noting that riders often did not know how to submit tickets and that reporting links appeared only for certain tags).



- 260. The app's existing safety features, such as "Contact 911" and "Report safety issue," do not explicitly guide or support the reporting of Sexual Violence. During the ride, users are presented with the following general safety features:<sup>358</sup>
  - Contact 911 This option allows riders to contact emergency services a. quickly.
  - Record Audio Users can record audio during the ride and send it to Uber. b.

<sup>&</sup>lt;sup>357</sup> Exhibit D, September 2025 Rider App screenshots showing available reporting categories ("driver behavior," "other").

<sup>&</sup>lt;sup>358</sup> Exhibit D,  $\P$  4

- c. Share Trip Status This feature enables users to share their trip status with friends or family.
- d. Report Safety Issue This option allows users to report safety concerns via free-form text.
- e. Set Safety Preferences This feature lets riders set preferences for safety check-ins, PIN verification, and other safety-related actions.
- 261. None of these options provides a simple user experience to report Sexual Violence, either during the ride or after the trip. Post-trip, users must navigate through ambiguous choices such as "Driver behavior" or "Other," neither of which directly addresses incidents of Sexual Violence. I fund no documentation that Uber conducted usability testing designed to demonstrate ease of reporting Sexual Violence for any of the so-called reporting options.
- 262. The app's design created and creates barriers for riders seeking to report Sexual Violence in a traumatic context. In addition to usability principles set out in ISO 9241-11:2018,<sup>359</sup> which defines the concepts of usability in interactive systems, industry standard practice requires that once safety-critical risks are foreseeable, reporting pathways should be directly addressed through iterative design and validation. Uber's reporting interface did not meet this expectation.
- 263. Uber's internal records confirm the company knew Sexual Violence was underreported and that reporting design contributed to this problem. As early as 2017, Uber personnel acknowledged unintuitive feedback flows and low user trust as barriers to reporting. <sup>360</sup> In 2018, internal emails tied underreporting to the app's design, noting that only a fraction of

<sup>&</sup>lt;sup>359</sup> ISO (2018). ISO 9241-11 Ergonomics of human-system interaction- Part 11: Usability: Definitions and Concepts. https://cdn.standards.iteh.ai/samples/63500/33c267a5a7564f298f02bbd65721a181/ISO-9241-11-2018.pdf

<sup>&</sup>lt;sup>360</sup> UBER\_JCCP\_MDL\_000162797 (Feb. 2017 internal presentation noting "high likelihood of underreporting of incidents and behaviors on our platform" due to unintuitive reporting flows and user distrust).

"Help" clicks resulted in completed reports. 361 Uber also documented that its reporting tags produced binary outcomes with little actionable detail. 362

- 264. In a document titled Sexual Assault / Misconduct Reduction Strategy from 2017, Uber wrote, "Currently, we know that there is a high likelihood of underreporting of incidents and behaviors on our platform due to unintuitive reporting feedback flows, societal influences, and a prevalent belief that we will not act on the information." <sup>363</sup> I have not seen documentation from the eight years that followed of any successful efforts to improve this underreporting.
- 265. I found no documentation that Uber redesigned reporting categories or taxonomy to capture Sexual Violence incidents more effectively, despite its recognition of these issues. In my professional experience, supported by ISO 31000, identified weaknesses in safety reporting should be treated as high-priority risks to be addressed through lifecycle governance. Uber's failure to do so reflects a departure from accepted practices in risk-sensitive applications.
- 266. In my opinion, Uber's Post Reporting Features were not designed, implemented, or governed in a manner consistent with my professional experience as supported by ISO 31000 and accepted industry standards for risk-sensitive applications.

#### VII. CONCLUSION

267. Based on my review of Uber's internal documentation, deposition testimony, product development records, and my professional evaluation against established industry standards, it is my opinion that Uber's Product Development Lifecycle did not align with risk-

<sup>&</sup>lt;sup>361</sup> UBER000129059 (Oct. 2018 safety team emails attributing underreporting to app design and lack of visible reporting links).

<sup>&</sup>lt;sup>362</sup> UBER\_JCCP\_MDL\_004522493 (internal evaluation describing reporting tags as "binary outcome with no additional detail," limiting usefulness for capturing rider safety concerns).

<sup>&</sup>lt;sup>363</sup> Deposition of Todd Gaddis (Jul 11, 2025), Exhibit 1570 (Bates No. UBER\_JCCP\_MDL\_000251111, at 000251111.0005)

based prioritization practices expected in environments<sup>364</sup> where human safety is materially at stake, including transportation networks that pair drivers with riders. My conclusions rest on Uber's independent determinations of whether individual features reduced incidents of sexual assault or misconduct; they are grounded in (a) Uber's own internal studies and (b) accepted standards of product lifecycle governance.

- 268. Gus Fuldner, Uber's Senior Vice President of Safety & Core Services, testified that Uber spends "very considerable resources in service of safety broadly." He testified that Uber "spends hundreds of millions of dollars a year on investments to prevent safety incidents on our platform... close to half a billion dollars a year on efforts to make our platform in the US as safe ...as we are able to make it... [and has] hundreds and hundreds of people dedicated to ...doing so."<sup>365</sup>
- 269. Despite Mr. Fuldner's assertions, which are not supported by the documentation I reviewed in my Opinions 1-8, it is my opinion, based on my review of the documents, filings and testimony in this case as well as my own professional experience and knowledge, that:
  - a. Technically feasible sexual assault/sexual misconduct prevention and mitigation features at inception As early as 2008, industry-standard features, such as rules-based considerations for matching Uber drivers and riders that considered safety outcomes and in-app reporting that could have

<sup>&</sup>lt;sup>364</sup> My consideration of "environments where human safety is materially at stake" is grounded in my professional experience over more than three decades in financial services, transportation/airlines, and consumer-facing technology. In those industries, I was directly responsible for software development and product lifecycle governance where safety-related features—including physical safety from assault, secure transportation arrangements, and safe customer interaction with financial technologies—were core to system design. These experiences required the integration of risk signals into product planning and the use of structured methodologies (PDLC/SDLC) to mitigate foreseeable harm. The same principles apply to mobile application development for ridesharing platforms, where product design decisions affect millions of real-world interactions between Uber drivers and riders, and therefore carry safety implications comparable to those I managed in other regulated and safety-sensitive environments.

<sup>365</sup> Deposition of Henry (Gus) Fuldner (Mar 27, 2025), at 557:8-21

captured feedback on drivers related to Sexual Violence, were technically feasible. Their omission from Uber's launch product demonstrates a failure to mitigate reasonably foreseeable risks.

- b. Response to documented incidents of SA/SM Once reports of sexual assault and sexual misconduct began appearing between Uber drivers and riders matched on rides by Uber (from 2012 onward), industry standards would require structured processes to integrate those risk signals into roadmap planning. Uber's internal documents confirm that features with demonstrated Sexual Violence incident reduction were not systematically elevated in Uber's prioritization frameworks.
- c. Pace of rollout Features that Uber's own studies associated with reduced incidents—such as Safety Risk Assessed Dispatch, audio/video recording, and women-preferred matching—were rolled out far more slowly than growth or cost-saving initiatives, an inversion from risk-based norms.
- d. Reporting and data integrity Uber lacked clear in-app reporting pathways for sexual assault/misconduct during or after trips through at least September 2025, and internal emails describe inconsistent and unreliable incident data management. Inadequate reporting and data integrity prevented Uber from achieving the closed-loop measurement of safety outcomes I have seen used over my 37-year career and supported by ISO/IEC 15288 and 31000 risk management standards.
- e. **Resource allocation** Uber consistently allocated most of the engineering and budgetary resources to growth, competitive positioning, and cost

savings, while investment in Safety & Insurance remained at engineering resources. This allocation is inconsistent with benchmarks in other safety-impacted industries where safety is treated as a core product

- f. Ability to identify and mitigate high-risk pairings Uber's own technical teams demonstrated the ability, no later than 2017, to identify high-risk matches through the Safety Risk Assessed Dispatch model and interventions. Industry-standard governance supports using those predictive signals to deploy protective interventions at scale—analogous to how social media platforms deploy additional safeguards for users under age 13. Uber's choice to soft-downrank rather than block high-risk pairings reflects a business tradeoff that departed markedly from industry norms for risk mitigation.
- 270. Based on Uber's own documents and internal assessments, the company had the technical capacity to build features that reduced the number of incidents of Sexual Violence between Uber drivers and riders matched by Uber. Its internal studies confirmed that these features worked as intended and were associated with lower rates of Sexual Violence, including results measured through statistical analysis and holdback groups. As a product development expert, it is my opinion—based on my review of Uber's documents—that Uber's expected outcome would have been fewer sexual assaults, and that meaningful reductions would have expected to have occurred by Uber's own studies had these features been deployed earlier and at scale.
- 271. All my opinions apply to all Uber drivers and riders and every incident of Sexual Violence on the platform.

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requirement.

- My opinions are limited to Uber's governance and prioritization processes and do not extend to independent conclusions about the causation of individual incidents.
- As noted at the outset, I reserve the right to supplement and amend this report based 273. on additional materials and/or information made available to me, to respond to Uber's experts, and to use demonstratives at trial.

Executed this 26th day of September 2025.

Bruce Weiner

Exhibit A – Curriculum Vitae of Bruce Weiner

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## **BRUCE WEINER**

82 Nassau St # 208 ♦ NY, NY 10038

Curriculum Vitae

HOME: 646.701.2012 ♦ <u>bruce@weiner.net</u> https://weiner.net

## **SUMMARY**

- Technology leader at the Federal Reserve Bank of New York.
- Patented Information Technology executive with over 37 years of extensive experience managing software, technology, IT infrastructure, program management, and contracting/outsourcing agreements for Fortune 100 companies and government agencies.
- Princeton-trained computer scientist and electrical engineer.
- Experienced expert witness in patent and complex commercial litigation matters.



#### CURRENT EXPERIENCE

FEDERAL RESERVE BANK OF NEW YORK

2012-Present

The New York District of the Central Bank of the United States of America.

#### VICE PRESIDENT, CHIEF PRODUCT OWNER - MARKETS TRANSFORMATION PROGRAM

Manages a team of technology leaders directing technology initiatives and serves as the bridge between the business and the Systems/Technology Organizations supporting the Markets Group. The Markets Group at the Federal Reserve Bank of New York is the organization responsible for implementing monetary policy on behalf of the Federal Open Market Committee and acting as a central bank for the world's central banks' US Dollar-denominated holdings. Technologies include fixed income trading, settlement and accounting systems, payments and securities custody, reference rate production systems, data analysis tools/systems, and operational planning and implementation software.

- Led the bank's transition to the ISO20022 standard for the payment hub, facilitating cross-border payments between Fedwire and SWIFT, and modernizing the global central banks' payments infrastructure.
- Overhauled the collection of source information, calculation methodology, and technology infrastructure for the bank's Effective Federal Funds Rate and Overnight Bank Funding Rate delivery.
- Developed and launched a new reference rate, SOFR, aimed at replacing US LIBOR, on April 3<sup>rd</sup>, 2018.
- Served as the Markets Group Operating Sponsor for the Markets Transformation Program, modernizing and executing a cloud migration for Trading, Banking, and supporting systems.
- Developed a market analysis delivery portal (MarketSource) to communicate the Markets Group's analysis and reporting results.

#### EDUCATION | TRAINING

**Bachelor of Science, Electrical Engineering and Computer Science,** PRINCETON UNIVERSITY, 1988, Magna Cum Laude, Princeton, NJ

**Certificate of Completion, International Relations and Public Policy, WOODROW WILSON SCHOOL AT**PRINCETON UNIVERSITY, 1988, Princeton, NJ

PAGE 1 OF 4

## **BRUCE WEINER**

#### PAST PROFESSIONAL EXPERIENCE

WEINER.NET, LLC 2008-2012

A technology consulting company for loyalty/affiliate marketing programs and travel-related service organizations.

#### **FOUNDER**

Established and grew a company from the ground up by bridging the gap between business needs and technology solutions. Led technology consulting efforts, driving material impact for both travel and loyalty/affiliate marketing customers. Airlines, hotels, car rental companies, and their technology and business processes outsourcing partners. Supported financial services clients on credit card and banking technology issues.

- Achieved a 30% reduction in infrastructure costs for a client by selecting, negotiating, and managing a hosting and cybersecurity agreement for a global set of transactional systems.
- Served as a launch CIO for 3 startups. Built the organizations from inception to transitioning operational systems and teams to an ongoing CIO.

## NOVANTAS, LLC - LOGICSOURCING, NEW YORK, NY

2005-2008

A leading provider of consulting, solutions, and research services for financial industries.

#### MANAGING DIRECTOR

Built a technology consulting practice for travel industry clients. Oversaw \$2M annual revenue, including budget and delivery management for teams between 4 and 52 staff members.

- Managed the Sabre Due Diligence efforts on sale to private investors, which included leading a team of
  consultants consisting of 3 partners and 50 professionals in an effort to evaluate the plan for revenue growth, cost
  reduction, and technology management.
- Provided support for the Star Alliance efforts for creating an alternative global distribution strategy. The international alliance consisted of United Airlines, Lufthansa, Air Canada, Singapore Airlines, Asiana, and South African Airlines.
- Managed a team of 8 consultants, providing technology analysis and strategic support for the merger to the preapproval "clean team" of Travelport and Worldspan executives. Included the development of a go-to-market sales/product strategy, technology strategy, technical product evaluations, technical operations consolidation plans, and cost reduction.
- Directed a series of technology due diligence engagements for private equity and venture capital firms in NYC. Evaluated financial services and travel industry investments (\$1-5B) to both buy and don't buy recommendations.

#### UNITED AIRLINES, CHICAGO, IL

2002-2005

A major airline company with global operations.

## MANAGING DIRECTOR, STRATEGIC SOURCING VICE PRESIDENT / CHIEF TECHNOLOGY OFFICER, UAL LOYALTY SERVICES

From 2003

Technology leader of pre-bankruptcy UAL Loyalty Services, Inc. group, which was gathered for the spin-out of Mileage Plus program and United.com. Oversaw 90 software developers, project managers, and architects. Led strategic sourcing for United Airlines through the bankruptcy process for over 300 executory contracts in Global Distribution Systems, Central Reservation Systems, Loyalty Programs, and Advertising Services.

Identified, negotiated, and led the program management committee of a vendor-funded replacement (\$280M program budget) for the aging technology powering United.com. Architected rebuild of United.com onto an ITA

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## **BRUCE WEINER**

Software, Datalex Software, and Travelport Software-based platform. Delivered the most functional, cost-efficient, web-based airline travel platform of its time.

- Awarded by management for saving the company \$350M in annual technology costs without impacting service or quality, and achieving zero vendor changes through renegotiating executory contracts.
- Managed the Global Distribution System (GDS) management and alternatives initiative, which was the single largest spending area in the organization with \$380M for GDS fees. Efforts included the negotiation of a five-year full content agreement.
- Served as CTO for United.com and Mileage Plus. Managed over 25 on-time and on-budget major enhancement projects for sales and loyalty program technology. Supported over 40 individual systems with no known successful cyber intrusions.

SYNETRO GROUP, CHICAGO, IL

2000-2002

#### PRINCIPAL AND CHIEF TECHNOLOGY OFFICER

Served as launch Chief Technology Officer for a series of Synetro investments, including Moonrings Travel and InsuranceNoodle.com. Also served as a management consultant to UAL Loyalty Services on technology issues (Mileage Plus, United.com (Loyalty and Credit Card), and MyPoints.com.

Brierley & Partners, Dallas, TX

1998-1999

#### **CHIEF TECHNOLOGY OFFICER**

Senior technology leader for Loyalty Marketing Agency supporting clients such as United Airlines Mileage Plus, Hertz #1 Gold, Hilton Honors, Blockbuster Rewards, and the launch of an internet loyalty startup, eRewards.com. Oversaw cruise and seniors travel programs as travel agency manager.

FIRST MANHATTAN CONSULTING GROUP, NEW YORK, NY

1994-1998

#### PRINCIPAL

Management Consultant serving financial services customers on issues like loyalty program development, technology development, infrastructure, credit card and banking technology, and customer contact center technology.

AMERICAN EXPRESS, NEW YORK, NY

1991-1994

#### **VICE PRESIDENT, TECHNOLOGY**

From 1993

#### DIRECTOR, MARKETING

Technology and product development leader for Travel Management Services, Loyalty and Travel Programs. Small Business Services (Credit Cards and Banking Services).

BOOZ ALLEN & HAMILTON, NEW YORK, NY

1988-1990

#### **ANALYST**

Management consultant specializing in technology, software development, and management for financial services, loyalty, and travel clients.

#### CERTIFICATIONS | MEMBERSHIPS | LICENSES

- 1. ACM (Association for Computing Machinery) since 2018
- 2. **IEEE** (Institute of Electrical and Electronics Engineers) since 2018
- 3. Certified Advanced Scrum Product Owner, Scrum Alliance, since 2015
- 4. Commercial, Instrument Rated Pilot; Certified Advanced Ground Instructor since 1988

## **BRUCE WEINER**

#### SPEAKING ENGAGEMENTS

- 1. Sibos 2025, Frankfurt, October 2, 2025, Shaping the next decade: Transformation lessons from the Fed ISO 20022 journey to CBPR+ and beyond
- 2. Central Banking Forum, U.S. Monetary Policy Implementation, Federal Reserve Bank of NY, 2017, TRADING TECHNOLOGY IN US MONETARY POLICY
- 3. Central Banking Forum, U.S. Monetary Policy Implementation, Federal Reserve Bank of NY, 2016, TRADING TECHNOLOGY IN US MONETARY POLICY
- 4. Travdex, Berlin, March 9-10, 2006 ITB Convention Market Trends & Innovations LET'S GET LARGE: MORE GROWTH IN STORE FOR ONLINE TRAVEL

1994-2005 Conferences

- 5. EDS Leadership Forum
- 6. Executives Club of Chicago Conference
- 7. Bank Marketing Association Conference
- 8. Direct Marketing Day NY (DMDNY)
- 9. Bank Administration Institute Conference
- 10. Bank Marketing Association Conference
- 11. Institute of International Research Conference

#### **PUBLICATIONS**

- 1. Listening to Customers Via New Research techniques is Key to Becoming a Marketing Driven Bank, American Banker's Financial Services Marketing, Spring 1998
- 2. Tailoring A Custom Fit: New Ideas Tailor-Made For Our Cardmembers, Citibank Today, Fall 1997

### **PATENT**

Methods and apparatus for selecting an insurance carrier for an online insurance policy purchase.

Issued May 15, 2006 Patent 7,203,734

#### Exhibit B - Materials Considered

# EXHIBIT B Documents and Materials Considered

All Citations and References in the Expert Report

## Articles, Books, Standards, and Websites

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# **Pleadings**

**Master Long Form Complaint**, filed at ECF 269 in *In re*: Uber Technologies, Inc., Passenger Sexual Assault Litigation.

**Plaintiff First Amended Bellwether Complaint and Demand for Jury Trial**, filed at ECF 2506 in *In re:* Uber Technologies, Inc., Passenger Sexual Assault Litigation, No. 3:23-cv-06708 (N.D. Cal.).

**Plaintiff's First Amended Short Form Complaint and Demand for Jury Trial**, directly filed on March 14, 2025 at ECF 2509 as a member case (No. 3:24-cv-7019) in MDL 3084, *In re: Uber Technologies, Inc., Passenger Sexual Assault Litigation* (N.D. Cal.).

**Plaintiff Short Form Complaint and Demand for Jury Trial**, directly filed on November 8, 2025 as a member case (No. 3:24-cv-07821) in MDL 3084, In re: Uber Technologies, Inc., Passenger Sexual Assault Litigation (N.D. Cal.).

**Plaintiff First Amended Bellwether Complaint and Demand for Jury Trial**, filed at ECF 2513 in *In re:* Uber Technologies, Inc., Passenger Sexual Assault Litigation, No. 3:24-cv-4900 (N.D. Cal.).

**Plaintiff Initial Complaint.** On August 9, 2024, Plaintiff B.L. filed her Complaint against Uber in the Superior Court of the State of California, County of San Francisco. Case No. CGC-24-617115. The case was later transferred and coordinated into the JCCP Case. 5188 by Order of the Court on October 14, 2024.

**Plaintiff Short-Form Complaint.** On November 11, 2024, Plaintiff B.L. filed her Short-Form Complaint against Uber at ECF 1 in *In re*: Uber Technologies, Inc., Passenger Sexual Assault Litigation, No. 3:24-cv-7940.

**Plaintiff First Amended Bellwether Complaint and Demand for Jury Trial**, filed at ECF 2092 in *In re:* Uber Technologies, Inc., Passenger Sexual Assault Litigation, No. 3:24-cv-7940 (N.D. Cal.).

**Plaintiff Second Amended Bellwether Complaint and Demand for Jury Trial**, filed at ECF 3925 in *In re:* Uber Technologies, Inc., Passenger Sexual Assault Litigation, No. 3:24-cv-7940 (N.D. Cal.).

#### **Uber Website and Documents**

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Uber Technologies, Inc. 2022 Form 10-K Annual Report. Ex. C - 2022 10-K.pdf

Uber Technologies, Inc. 2023 Form 10-K Annual Report. Ex. D - 2023 10-K.pdf

Uber Technologies, Inc. 2024 Form 10-K Annual Report. Ex. E - 2024 10-K.pdf

Uber S-1 Response. Ex. L - S-1 Response.pdf

Uber 2020 Proxy Statement. Ex. M - 2020 Proxy Statement.pdf

Uber 2021 Proxy Statement. Ex. N - 2021 Proxy Statement.pdf

Uber 2022 Proxy Statement. Ex. O - 2022 Proxy Statement.pdf

Uber 2023 Proxy Statement. Ex. P - 2023 Proxy Statement.pdf

Uber 2024 Proxy Statement. Ex. Q - 2024 Proxy Statement.pdf

Marketing Brief: Turning the Reputation Page on Sexual Assault & Domestic Violence (External Audiences Only)

# MDL and JCCP Depositions with Exhibits

Michael Akamine Deposition and Exhibits (5/19/25 and 5/20/25)

Brooke Anderson Deposition and Exhibits (05/01/25 and 05/02/25 and 5/6/25)

William Anderson Deposition and Exhibits (9/26/23)

Matthew Baker Deposition and Exhibits (11/13/24)

PMK (Emilie Boman) Deposition and Exhibits (3/5/25 and 4/1/25)

Tracy Breeden Deposition and Exhibits (3/13/25 and 3/14/25)

30(b)(6) (Gregory Brown) Deposition and Exhibits (6/17/25)

30(b)(6) (Gregory Brown) Deposition and Exhibits (July 15-16, 2025 and August 25-26, 2025)

PMK (Gregory Brown) Deposition and Exhibits (3/13/25 and 3/14/25 and 5/7/25)

30(b)(6) (Jamie Brown) Deposition and Exhibits (August 6, 2025)

Jordan Burke Deposition and Exhibits (3/20/25 and 3/21/25)

Faiz Bushra Deposition and Exhibits (5/13/25)

Philip Cardenas Deposition and Exhibits (2/26/25)

Frank Chang Deposition and Exhibits (5/9/25)

30(b)(6) (Heather Childs) Deposition and Exhibits (6/5/25)

Dennis Cinelli Deposition and Exhibits (3/28/25)

30(b)(6) (Chad Dobbs) Deposition and Exhibits (8/21/25)

30(b)(6) (Mariana Esteves) Deposition and Exhibits (7/15/25 and 8/28/25)

Chadd Fogg Deposition and Exhibits (2/5/25)

Cory Freivogel Deposition and Exhibits (12/10/24 and 2/6/25)

Henry (Gus) Fuldner Deposition and Exhibits (3/26/25 and 3/27/25 and 4/29/25)

30(b)(6) (Todd Gaddis) Deposition and Exhibits (7/11/25)

PMK (Todd Gaddis) Deposition and Exhibits (7/8/25 and 7/9/25 and 7/11/25)

Catherine Gibbons Deposition and Exhibits (6/5/25)

Ryan Graves Deposition and Exhibits (5/13/25)

Andrew Hasbun Deposition and Exhibits (4/10/25 and 4/11/25)

Cassandra Hawk Deposition and Exhibits (4/8/25)

Jill Hazelbaker Deposition and Exhibits (6/17/25)

Rachel Holt Deposition and Exhibits (12/12/24 and 4/9/25)

Jordan Hornback Deposition and Exhibits (3/31/25)

Nairi Hourdajain Deposition and Exhibits (2/7/25)

Meghan Joyce Deposition and Exhibits (2/26/25)

Roger Kaiser Deposition and Exhibits (11/19/24 and 4/22/25)

Travis Kalanick Deposition and Exhibits (7/3/25)

Sachin Kansal Deposition and Exhibits (5/28/25)

Dara Khosrowshahi Deposition and Exhibits (7/1/25)

Carly Lake Deposition and Exhibits (3/20/25 and 3/21/25)

Jenny Luu Deposition and Exhibits (2/27/25)

30(b)(6) (Katherine McDonald) Deposition and Exhibits (4/25/25)

Katherine McDonald Deposition and Exhibits (10/7/24 and 5/7/25)

30(b)(6) (Hannah Nilles) Deposition and Exhibits (6/30/25)

30(b)(6) (Hannah Nilles) Deposition and Exhibits (7/10/25)

30(b)(6) (Hannah Nilles) Deposition and Exhibits (7/23/25 and 8/7/25)

PMK (Hannah Nilles) Deposition and Exhibits (5/5/25 and 5/14/25 and 5/29/25)

30(b)(6) (Hannah Nilles) Deposition and Exhibits (August 7, 2025)

Jodi Page Deposition and Exhibits (5/21/25)

Katherine Parker Deposition and Exhibits (12/3/24 and 2/14/25)

PMK (Rebecca Payne) Deposition and Exhibits (4/2/25 and 4/3/25 and 5/2/25 and 5/12/25 and 5/13/25)

Andi Pimentel Deposition and Exhibits (10/15/24 and 3/27/25)

Cameron Poetzscher Deposition and Exhibits (6/4/25)

David Richter Deposition and Exhibits (2/24/25)

Brad Rosenthal Deposition and Exhibits (10/24/23)

30(b)(6) (Elizabeth Ross) Deposition and Exhibits (6/11/25 and 6/12/25)

Danielle Sheridan Deposition and Exhibits (5/15/25 and 5/16/25)

Valerie Shuping Deposition and Exhibits (4/17/25 and 4/18/25)

Nicholas Silver Deposition and Exhibits (11/21/24)

Troy Stevenson Deposition and Exhibits (10/21/24)

Joseph Sullivan Deposition and Exhibits (6/25/25)

Michael Sullivan Deposition and Exhibits (3/26/25)

Pat Twomey Deposition and Exhibits (5/29/25)

Kayla Whaling Deposition and Exhibits (2/28/25 and 4/22/25)

30(b)(6) (Sunny Wong) Deposition and Exhibits (6/25/25)

PMK (Sunny Wong) Deposition and Exhibits (4/16/25)

30(b)(6) (Sunny Wong) Deposition and Exhibits (7/23/25)

Defendants' Uber Technologies, Inc., Rasier LLC, and Rasier-CA, LLC's Responses to Topics 3-15 of All Plaintiffs' Notice of 30(b)(6) Deposition of Uber Technologies, Inc., Rasier LLC, and Rasier-CA, LLC (Recordkeeping) with Exhibits (7/2/25)

## **Documents Produced**

# UBER JCCP MDL 000897033

UBER JCCP MDL 000031720

UBER JCCP MDL 000061193

UBER JCCP MDL 000073935

UBER JCCP MDL 000107378

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# **Discovery**

Defendant's 8-18-25 Responses to ROG and RFA in Lieu of 30b6 Depositions

Uber Interrogatory 4 Response

Uber Interrogatory 5 Response

Defendant Uber's Responses to Plaintiff Jane Doe's Requests for Admission, Set One (May 13, 2021)

Defendant Uber's Responses to Plaintiff Jane Doe's Requests for Admission, Set One (March 16, 2021)

Defendant Uber's Supp. Responses to Plaintiff Jane Doe's Interrogatories, Set One (June 28, 2021)

Defendant Uber's Responses to Plaintiff Jane Doe's Requests for Admission, Set One (March 16, 2021)

Defendant Uber's Responses to Plaintiff Jane Doe's Request for Production, Set One (June 30, 2021)

Plaintiff Jane Doe's Request for Production, Set One (October 15, 2020)

Defendant Uber's Responses to Plaintiff Jane Doe's Request for Production, Set One (March 16, 2021)

Defendant Uber's Supp. Responses to Plaintiff Jane Doe's Requests for Admission, Set One (May 13, 2021)

Plaintiff Jane Doe's Interrogatories to Defendant, Set One (October 15, 2020)

Uber Privilege Log (September 25, 2024)

Uber Revised Privilege Log (September 25, 2024)

Uber Privilege Log (October 31, 2024)

Uber Privilege Log (November 22, 2024)

Uber Privilege Log (December 3, 2024)

Uber Privilege Log (December 12, 2024)

Uber Privilege Log (December 18, 2024)

Uber Privilege Log (January 28, 2025)

Uber Privilege Log (January 31, 2025)

Uber Privilege Log (C. Fogg) (February 3, 2025)

Uber Privilege Log (February 4, 2025)

Uber Privilege Log (N. Hourdajian) (February 5, 2025)

Uber Privilege Log (Parker and Richter) (February 11, 2025)

Uber Privilege Log (February 13, 2025)

Uber Privilege Log (February 14, 2025)

Uber Privilege Log (February 18, 2025)

Uber Privilege Log (February 24, 2025)

Uber Privilege Log (February 26, 2025)

Uber Privilege Log (March 3, 2025)

Uber Privilege Log (March 6, 2025)

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Uber Privilege Log (June 3, 2025)
Uber Privilege Log (June 5, 2025)
Uber Privilege Log (June 6, 2025)
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Uber Privilege Log (September 15, 2024)

# **Expert Reports**

Expert Report of Jason B. Morris (June 23, 2025) (and all exhibits thereto and materials cited therein)

Expert Report of Vida Thomas (Investigating Reports) (June 25, 2025) (and all exhibits thereto and materials cited therein)

Expert Report of Joseph Okpaku (Industry Standards for Safety) (July 2, 2025) (and all exhibits thereto and materials cited therein)

Expert Report of Dr. Duncan Cumming (Cameras) (July 7, 2025) (and all exhibits thereto and materials cited therein)

Expert Report of Dr. Erica Piza (Cameras No Deterrent) (July 15, 2025) (and all exhibits thereto and materials cited therein)

### **Everlaw Views**

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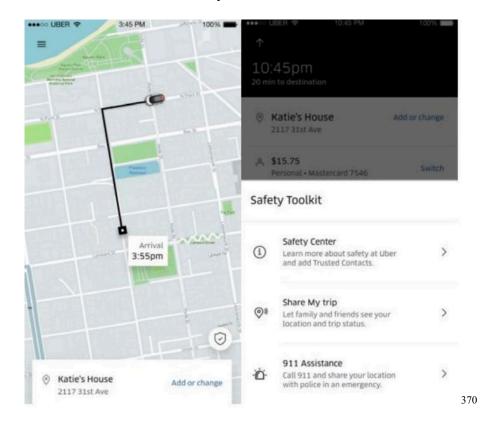
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**Exhibit C – Safety Features Overview** 

1. This exhibit summarizes Uber's portfolio of Safety Features, which I define as product features either designed to influence riders' or drivers' perception of safety or intended to provide direct protection against Sexual Violence. For each feature, I provide screenshots, launch dates, Uber's stated objectives, and available information on internal evaluation. As noted in Opinion 7, only three features—Safety Risk Assessed Dispatch, Audio and Video Recording, and W2W—were supported by internal analyses that Uber represented as showing reductions in incident rates. The remaining features were primarily tracked against perception-based metrics such as safety sentiment and feature awareness.

2. Safety Toolkit: The feature was added in May 2018. As described in Uber's documents, the Safety Toolkit is a consolidated and comprehensive set of features in-app for riders designed to improve the perception of safety. 366, 367, 368 In a regional press release, Uber said, "At Uber, safety is a top priority, and we look towards harnessing technology to solve for rider and driver safety concerns in more innovative ways. The roll-out of the Safety Toolkit... is an extension of this commitment to the community that we serve. We've updated our platform to prioritize awareness and sensitization and make our safety features more accessible and easier to use."369



<sup>&</sup>lt;sup>366</sup> UBER JCCP MDL 000061193

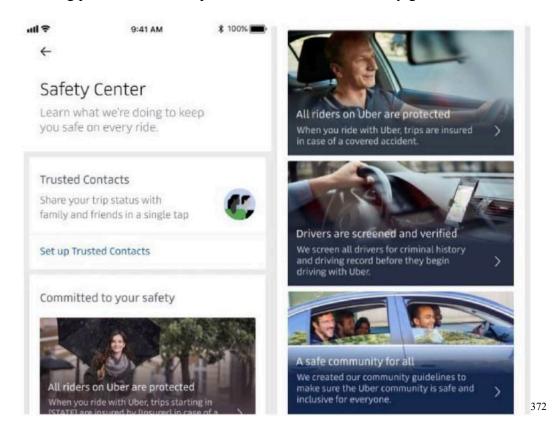
<sup>&</sup>lt;sup>367</sup> UBER JCCP MDL 002279408

<sup>&</sup>lt;sup>368</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 69:6-24, (describing Safety Toolkit as providing easy access to safety tools to assist the rider).

<sup>&</sup>lt;sup>369</sup> UBER\_JCCP\_MDL\_002291681

<sup>&</sup>lt;sup>370</sup> UBER\_JCCP\_MDL\_005411897

3. **Safety Toolkit: Safety Center:** Also added in May 2018, the "Safety Center" is described by Uber as, "to find safety tips built in partnership with law enforcement and learn about the driver screening process, insurance protections, and our community guidelines."<sup>371</sup>



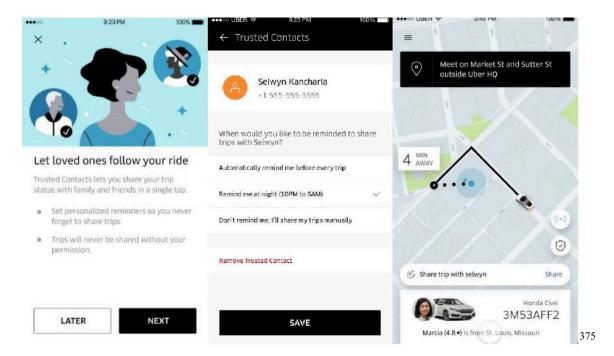
4. **Safety Toolkit: Share my Trips, including Trusted Contacts:** In the rollout of the "Safety Toolkit" in May 2018, Uber introduced Trusted Contacts. Trusted Contacts and Share my Trips are features designed to improve the perception of safety by having Uber drivers and riders 'locations known to a trusted contact.<sup>373</sup> As described by Uber, "The Safety Toolkit includes the Trusted Contacts option for riders, which allows them to designate up to five loved ones with

<sup>&</sup>lt;sup>371</sup> UBER JCCP MDL 000061193, at 000061194

<sup>&</sup>lt;sup>372</sup> UBER JCCP MDL 005411897, at 005411897-8

<sup>&</sup>lt;sup>373</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 70:2-8 (describing the feature for riders where they can share their trip which provides details about the vehicle and the driver); see also Deposition of Mariana Esteves (Jul 15, 2025), at 60:14-22 (same); Deposition of Rebecca Payne (Apr 2, 2025), at 70:15-71:1 (describing Trusted Contacts as how a rider saves contacts for sharing to give access to other individuals)

whom they are regularly prompted to share their trip. Riders can choose to share all trips, nighttime trips, or none at all."<sup>374</sup>



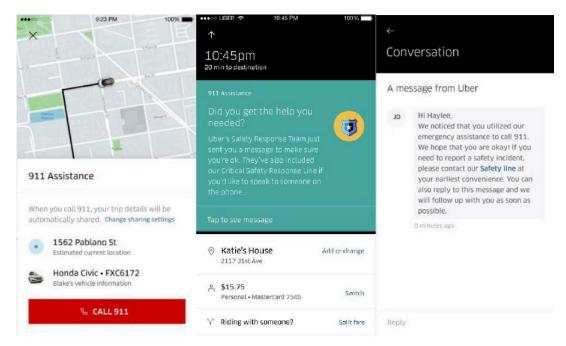
5. **Safety Toolkit: 911 Assistance:** The feature was rolled out in May 2018.<sup>376</sup> As described by Uber, "Through the Safety Toolkit, riders and drivers can access an emergency button, which provides an option to connect directly to 911 through the app in the event of an emergency. The 911 feature displays a rider's real-time location (both on the map and as an address) as well as the car make/model and license plate number so Uber drivers and riders can easily share that information with the 911 operator. To enhance the emergency button feature, we've partnered with RapidSOS in the US to roll out 911 integration with the Uber app. This means that if a rider or driver uses the button, key trip details will be digitally sent to 911 dispatchers. The caller's name, make and model of the Uber car, license plate, and GPS location

<sup>&</sup>lt;sup>374</sup> UBER JCCP MDL 000061193

<sup>&</sup>lt;sup>375</sup> UBER JCCP MDL 005411897

<sup>&</sup>lt;sup>376</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 77:1-78:7 (describing the release of the 911 feature and its capabilities)

are all available electronically, which eliminates the need to speak those details to the operator in an emergency."<sup>377</sup>



- 378
- 6. **Phone number and address anonymization:** Uber introduced features designed to prevent Uber drivers and riders from contacting each other after the ride is over.<sup>379</sup> The first of those features was introduced in 2014 and was known as phone number anonymization. The second, known as address anonymization, was launched in 2017 and allowed a rider to request a pickup at a street corner or intersection without entering a specific address, and was later enhanced in 2018 by removing the pickup location from the driver's ride history.<sup>380</sup>
- 7. **Verify your rides:** Verify your rides is a feature introduced by Uber in 2017, which is described in Uber's documents as improving safety by ensuring riders get into the car/driver that

<sup>&</sup>lt;sup>377</sup> UBER JCCP MDL 000061193

<sup>&</sup>lt;sup>378</sup> UBER JCCP MDL 005411897, at 005411899

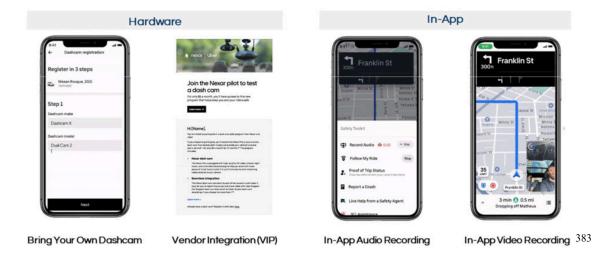
<sup>&</sup>lt;sup>379</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 67:18-25 (describing phone number anonymization); Deposition of Rebecca Payne (Apr 2, 2025), at 68:6-12 (describing address anonymization)

<sup>&</sup>lt;sup>380</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 68:6-69:2

was selected for them by Uber's matching platform. One Uber document describes this feature as, "In 2017, we began improving messaging to riders and the public about ways to check their ride. A key safety tip that we share with people encourages them to check that the driver matches their profile photo and that the car make, model, and license plate number match what's in their app before getting into the vehicle. Earlier this year [2019], we built on this initiative by sending push notifications and in-app reminders to riders before they started a trip. We are going a step further and will begin offering riders the option to verify their ride with a unique, 4-digit PIN they can verbally provide to their driver before they enter the vehicle. The driver must enter this 4-digit PIN into their app to start the trip. This helps riders ensure that they're getting into the right car, and it helps drivers ensure that they're picking up the right rider." 381

<sup>381</sup> UBER\_JCCP\_MDL\_003390040, at 003390070

8. **Audio and video recordings:** Uber has conducted internal studies on the safety benefits of these features since 2016. According to Uber's documents, "Uber Launched Audio Recordings in 2019. Added video capability in Q4 2022." Uber has four types of audio and video recording capabilities integrated into the Uber driver and rider applications:



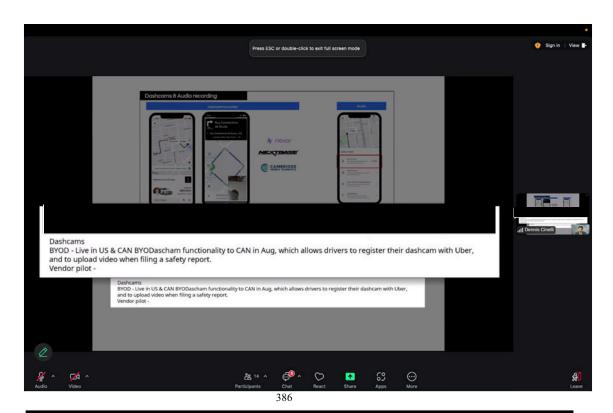
9. The "Bring Your Own Dashcam" feature allows Uber drivers to connect a Dashcam<sup>384</sup> they purchase to the Uber app.<sup>385</sup> The "Vendor Integration" approach enables Uber drivers to rent equipment from Uber vendor partners who provide equipment to the driver for a monthly fee that connects to the Uber app. "In-App Audio Recording" is a feature that allows the Uber rider or driver app to record audio using the phone as an audio capture device. "The In-App Video Recording" enables the Uber Driver app to utilize the phone's front-facing camera to capture video of interactions between the Uber driver and riders during the ride. Uber's documents recognize that Dashcams and audio are effective at preventing "incidents." Here are two examples:

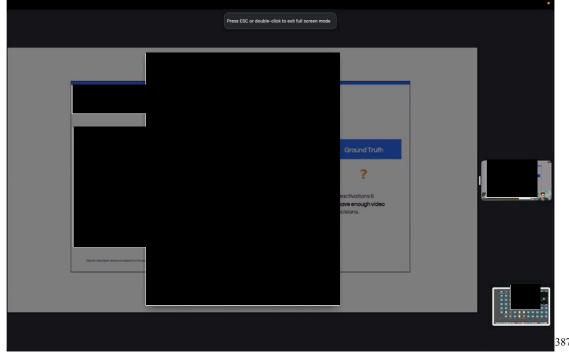
<sup>&</sup>lt;sup>382</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 80:25-81:13 (describing in-app video recording, its features, and launch year)

<sup>&</sup>lt;sup>383</sup> UBER JCCP MDL 000516123

<sup>384</sup> See *supra* Footnote 223

<sup>&</sup>lt;sup>385</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 81:20-82:9 (describing the Bring Your Own Dashcam program offered to drivers to register their own dashcam with Uber)





<sup>&</sup>lt;sup>386</sup> Deposition of Dennis Cinelli (Mar 28, 2025), Exhibit 0465 (Bates No. UBER\_JCCP\_MDL\_002275608, at 00275608.0024)

<sup>&</sup>lt;sup>387</sup> Deposition of Dennis Cinelli (Mar 28, 2025), Exhibit 0463 (Bates No. UBER\_JCCP\_MDL\_000864943, at 000864948)

10. Uber has performed internal studies on the benefits of using audio and video recordings as a safety feature since 2016. A 2019 proposal to begin internal studies in recordings tells Uber's history on recording:

In late 2016, the Safety & Insurance group conducted an internal study around on-trip audio recording called Project Dolby. The project ended in engineering prototypes but provided a great case study on user expectations and technical feasibility. The focus was on putting drivers in control and measuring whether supply hours would increase in unsafe areas. Rider and driver research revealed a couple of key takeaways: Drivers viewed it as good backup documentation in case something went wrong, but unsafe areas didn't feel any safer. Riders understood the value but were uncomfortable with the driver being in control.

. . .

In mid-2018, the LatAm Ops team took up the mantle and proposed a stricter variation with Project Black Box. Audio would be streamed directly to Uber and only unlocked in the case of an incident report (after five days, it would be deleted). Uber drivers and riders would not be able to take a trip without consenting to the recording. ... The team conducted rider research in Mexico and came out with their own findings: Most women wanted all their trips to be recorded and tended to worry less about privacy issues than men. Many riders said they would change their conversations on-trip (particularly business-related), but only one saw it as an actual blocker to taking a trip using the Uber app. Riders approved of recordings not being stored on drivers' phones, though

they additionally wanted confirmation that recordings were actually deleted on Uber's servers.

. . .

In H2 2018, the ELT greenlit a test of the Uber experience of Dashcams with an external vendor partner. The driving safety team began this pilot in Florida with the same hypotheses as above, and an additional interest in testing if claims processing could be expedited. "Early indications suggest that riders taking trips with drivers in our dashcam-equipped pilot have no statistically significant changes in cancellation rate or driver rating.388

- 11. **New rider verification:** The first introduction of a rider verification feature was in 2021. Uber's documents state: "First launched in Chicago in 2021, we rolled out a rider verification feature across the US that provides an extra layer of verification for users who are using anonymous forms of payment such as prepaid cards, gift cards, or Venmo. Users who set up a new account using one of these anonymous forms of payment or log into a new device using an existing account that was set up with one of these payment types will be required to upload an ID or driver's license from any state or a passport from any country for verification. This feature is something drivers have told us they would like to see implemented, and we continue to explore new ways to enhance safety and peace of mind for them when using the Uber app."<sup>389</sup>
- 12. **Real-time ID check:** Uber introduced Real-time ID Check (internally at Uber referred to as "Mutombo") as a tool to address the problem of drivers using the app not being the

<sup>&</sup>lt;sup>388</sup> UBER\_JCCP\_MDL 000515739, at 000515742

<sup>&</sup>lt;sup>389</sup> UBER JCCP MDL 003401305

same individual who has been screened and tracked.<sup>390</sup> Uber describes this at times as a safety feature and at other times as a security feature. In Uber's documents, this feature is described as, "the US launch of real-time ID check in September 2016...Our Real-time ID check is our latest security feature that helps us ensure that the driver using the app matches the account we have on file. It works like this: drivers are periodically asked to share a selfie with Uber before they log onto the app; we then instantly compare this photo to the one corresponding with the account on file. If the two photos don't match, the account is temporarily suspended while we look into the matter further. This is just another example of features we're always exploring to improve the security on the app."<sup>391</sup> Another document elaborates on this feature, saying it "[p]rompts drivers to take a live photo of themselves in the Uber app before they can accept rides. The tool then utilizes facial comparison technology to match a driver's real-time photo with their account photo, which helps to verify that the right driver is behind the wheel."<sup>392</sup>

13. Uber's selfie comparison technology, developed in early 2019,<sup>393</sup> is called Motumbo.<sup>394</sup> When a driver is prompted to take a selfie, that selfie is then compared with the "photo and documents" that Uber has on file for that driver.<sup>395</sup> However, over the years, Uber has had issues with efficacy. As Gus Fuldner noted, from which, at least as of 2018, "we

...."396 According to Barnie Harford (COO in 2018), this is because

<sup>&</sup>lt;sup>390</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 65:15-24 (describing the Real-time ID feature and it being known as Mutombo)

<sup>&</sup>lt;sup>391</sup> UBER\_JCCP\_MDL\_000126629, at 000126629, 000126633

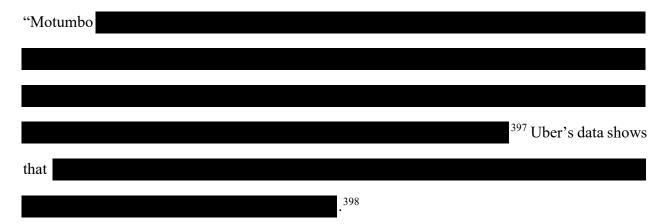
<sup>&</sup>lt;sup>392</sup> UBER JCCP MDL 003390040, at 003390051

<sup>&</sup>lt;sup>393</sup> UBER JCCP MDL 004641990

<sup>&</sup>lt;sup>394</sup> Deposition of Gregory Brown (Mar 13, 2025), at 63:15-64:8

<sup>&</sup>lt;sup>395</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 65:15-24

<sup>&</sup>lt;sup>396</sup> UBER JCCP MDL 003703401, at 003703401-2



- 14. RideCheck: Uber leveraged its extensive data collection and technology capabilities to introduce a feature that monitors GPS tracking and historical data, identifying unusual or unexpected patterns in trips, such as early termination, off-course routing, or stops along the way. <sup>399</sup> The feature was in pilot in late 2018 and launched nationally in September 2019. <sup>400</sup>
- As described in Uber's documents, "The feature uses GPS and sensors from the 15. driver's smartphone to identify rare events like unexpected long stops or possible crashes. In these situations, Uber will initiate a RideCheck by proactively reaching out to both the rider and the driver through the app to offer assistance. As part of this check-in, we will also surface options in the app that provide quick access to key safety tools so drivers and riders can take action and get the help that they may need."401
- 16. The RideCheck notifications appear in the Uber driver and rider apps. Uber included a short demo of how RideCheck works in a 2019 press release: 402

<sup>&</sup>lt;sup>397</sup> UBER JCCP MDL 003703388, at 003703389

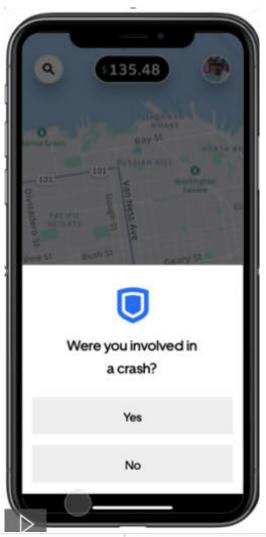
<sup>&</sup>lt;sup>398</sup> UBER JCCP MDL 004212106, at 004212120

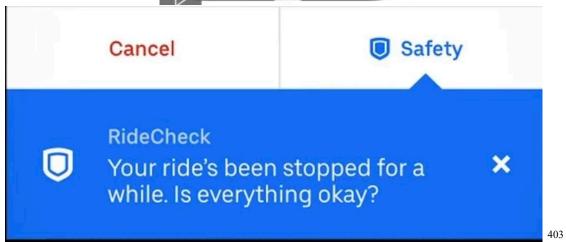
<sup>&</sup>lt;sup>399</sup> Deposition of Rebecca Payne (Apr 2, 2025), at 76:7-16 (describing RideCheck feature and its purpose); Deposition of Mariana Esteves (Jul 15, 2025), at 14:8-15 (same)

<sup>&</sup>lt;sup>400</sup> UBER JCCP MDL 000061193

<sup>&</sup>lt;sup>401</sup> UBER JCCP MDL 000061193

<sup>&</sup>lt;sup>402</sup> Hasbun A. RideCheck: Connecting you with help when you need it. Uber Newsroom. 2019 Sep 17 [accessed 2025 Aug 17]. https://www.uber.com/newsroom/ridecheck/





403 Uber's new safety RideCheck feature asks if you're 'OK.' Reddit.com. [accessed 2025 Aug 17]. https://www.reddit.com/r/uber/comments/d5o1x3/ubers new safety ridecheck feature asks if youre/

17. **Risk Zone Destinations Alerts:** Risk zone destination alerts inform drivers of the location they will pick up or drop off within a predefined dangerous zone. As stated in the document kicking off the first wide-scale internal studies with Risk Zone Destination Alerts in 2024, Uber's documents said: "The objective of this project is to develop and test a feature that alerts drivers when a pickup or drop-off location is within a predefined dangerous zone. This feature aims to provide drivers with upfront information about potential risks. The project will conduct an experimental pilot (XP) in selected cities in Latam (BR, AR, MX) to evaluate the feature's impact on driver safety perception and marketplace metrics. The goal is to equip drivers with the necessary information to assess the risk of their trips, enabling them to make informed decisions, and to increase safety sentiment and trust in Uber." Uber's first smaller-scale internal studies were conducted in 2019, but these early studies only led to the introduction of blackout zones, not a new app safety feature. 405

18. **Safe dispatch models:** As described in ¶ 59, Uber has leveraged technology to match a rider and a driver not long after its official launch in 2011. Uber's first use of technology for dispatch, intended to improve the safety of riders or drivers, was introduced in 2017 and focused on the safety impact of cash, known internally at Uber as the Safe Dispatch Model. 406 Uber's documents state, "From the implementation of the Safe Dispatch Model (SDM) in LatAm in Q2 2017 up to the latest rollouts of the Rider First Trip (RFT) Model v2 in SSL in Q3 2018, the continuous improvement of these models has had a positive safety impact in the markets where they are live." 407

<sup>&</sup>lt;sup>404</sup> UBER JCCP MDL 005642278, at 005642280

<sup>&</sup>lt;sup>405</sup> UBER JCCP MDL 005642278, at 005642280

<sup>&</sup>lt;sup>406</sup> UBER\_JCCP\_MDL\_001113654

<sup>&</sup>lt;sup>407</sup> UBER JCCP MDL 002613582

19. Since that time Uber has invested in and performed internal studies with the use of the vast information it captures on Uber drivers, riders and trips matched by Uber to reduce sexual assault and misconduct balanced against Marketplace (ETA, cancelation rates, completed trips, unfulfilled rate, Uber driver and rider ratings, completed trips and requests per hour) and user fairness concerns (overall earnings, weekend night earnings, completed trips, supply utilization, one star trips, weekend night ETA). Legal considerations and the impact of public relations challenges are also considered when tuning the inputs or depth of impact for its intervention models. 409

20. In July 2022, 410 Uber rolled out what was internally referred to as Safety Risk Assessed Dispatch, described in Uber's documents as: "S-RAD is a safety intervention designed to reduce sexual assault and misconduct incidents on the Uber platform. The intervention consists of (1) machine learning models that identify driver-rider matches with elevated risk of these incidents, and (2) a filtering procedure that prevents matches with elevated risk from being assigned and dispatched." 411, 412

21. **Women rider/woman driver matching:** Another model Uber has used to improve the incident rate of sexual assault and misconduct is matching models that pair women riders with women drivers. The first use of technology to match based on gender in a few cities in 2019, known as Women Rider Preference. It was offered to drivers who were marked as women during the document approval process and used a model to infer rider gender. Drivers were given the

<sup>&</sup>lt;sup>408</sup> UBER JCCP MDL 002340857, at 002340857-8

<sup>&</sup>lt;sup>409</sup> UBER JCCP MDL 001733185

<sup>&</sup>lt;sup>410</sup> Deposition of Michael Akamine (May 20, 2025), Exhibit 0889 (Bates No. UBER JCCP MDL 003274193)

<sup>&</sup>lt;sup>411</sup> UBER JCCP MDL 002340857

<sup>&</sup>lt;sup>412</sup> Deposition of Sunny Wong (Apr 16, 2025), at 185:5-15 (describing Safety Risk Assessed Dispatch as a feature that leverages signals and factors to reduce the rate of reports of sexual assault); 185:23-186:5 (describing the goal of Safety Risk Assessed Dispatch as being to reduce all sexual assault report rates)

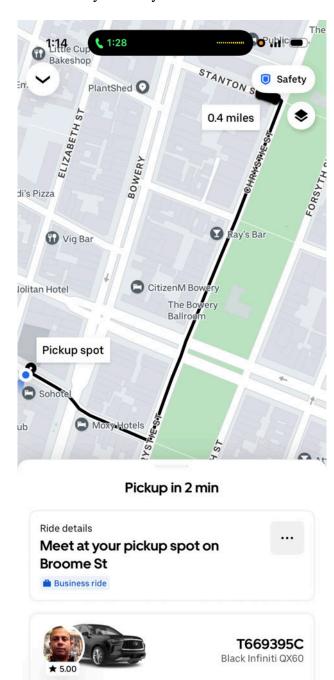
ability to cancel if the rider did not appear to match the expected gender. <sup>413</sup> This feature was not reciprocal (did not allow the female rider to indicate a preference for and be matched with a female driver).

<sup>&</sup>lt;sup>413</sup> UBER\_JCCP\_MDL\_000960186, at 000960196

Exhibit D – Reporting Sexual Violence in the Uber App

- 1. This exhibit summarizes Uber's Post Reporting Features, meaning the in-app pathways riders could use to report Sexual Violence incidents during or after a trip with a matched driver. The screenshots and walkthroughs from July and September 2025 illustrate the absence of a dedicated reporting category for Sexual Violence, the reliance on vague categories such as "driver behavior" and "other," and the unintuitive placement of certain reporting links. Read together with Uber's internal records on underreporting and tagging limitations, these materials show that Uber's reporting interface did not align with industry standards for risk-sensitive applications.
- 2. I captured these screen shots of the Rider app user experience when simulating an attempt to report an interaction where the rider considers themselves to have been subject to Sexual Violence. I used my own Uber app v3.680.1001 in July 2025 to capture these screenshots as I looked to make such a report. I captured a final screenshot in September 2025 and revalidated the flow.

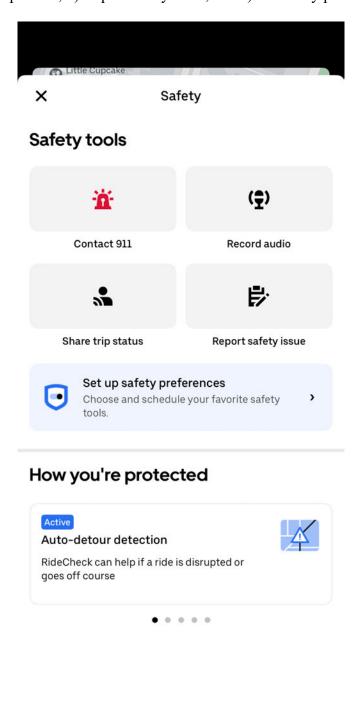
3. The available options during a ride differ from those available after a ride. As I awaited my driver, and during the ride – there is a clearly labeled blue icon visible on the upper right corner of the main screen which says "Safety."



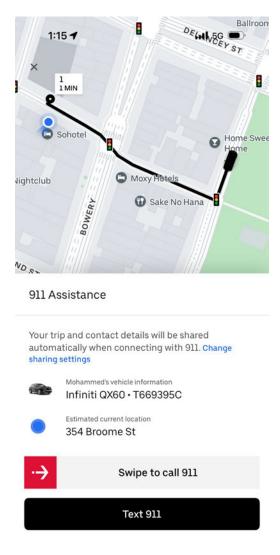
Mohammed

1 Top-rated driver

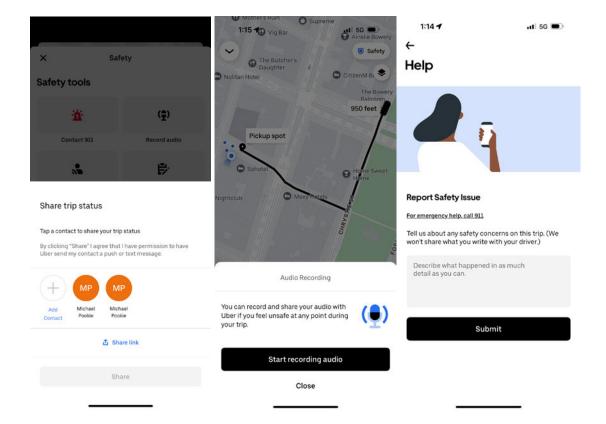
4. Pressing the Safety button brings up a screen with 5 options – a) Contact 911, b) Record audio, c) Share trip status, d) Report safety issue, and e) Set safety preferences.



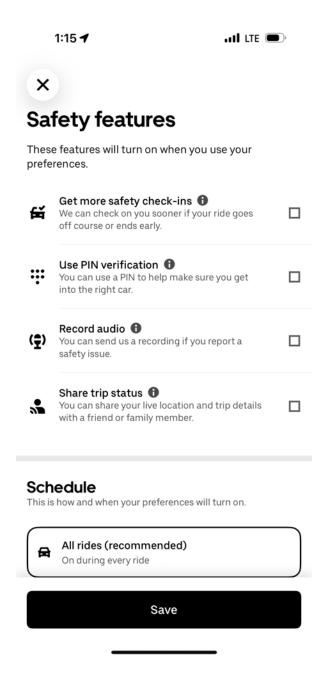
5. The first option, "Contact 911" is shown in a red color in the upper left position and provides the rider a two click process to be on the phone with a 911 operator. It gives the user the chance to either call or text a 911 operator which will provide them the current location at the time of the call. A rider who is experiencing Sexual Violence while still on a ride might reasonably select this option if they are able to do so under high stress and traumatic circumstances. I have seen no data regarding how often this feature is used during a ride to report Sexual Violence.



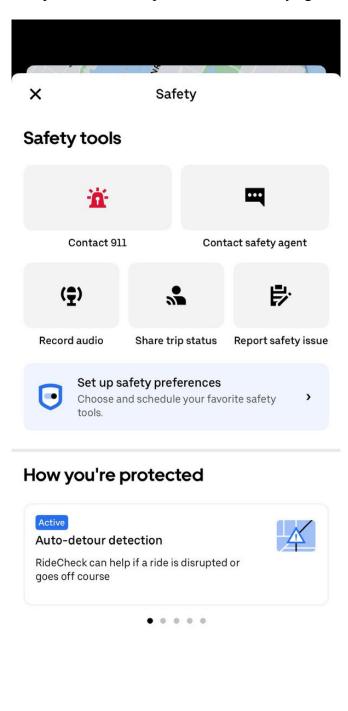
6. The next three options available during the ride do not make any explicit reference to reporting Sexual Violence. A Share trip status option which allows the trip to be shared with a rider's contact, an "Audio Recording" option which allows for the ride to be recorded and sent to Uber, and a Report safety issue option where free form text can be entered to report safety concerns on the trip. None of these options suggest a path for reporting Sexual Violence.



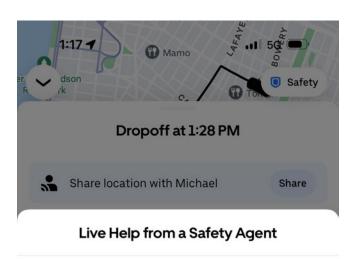
7. The final option on that main screen is a tool for setting "Safety feature" preferences which include a) Get more safety check-ins, b) Use PIN verification, c) Record audio, and d) Share trip status. A schedule can be set to trigger these features on all rides.



8. There is another view of the screenshot that appears after Exhibit C  $\P$  3 (Safety Toolkit – Safety Center) which provides a fifth option – Contact safety agent.



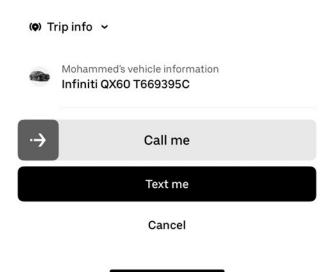
9. The new "Contact safety agent" allows a rider to call or text an agent from ADT for support during the ride.



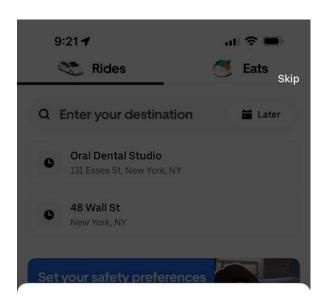


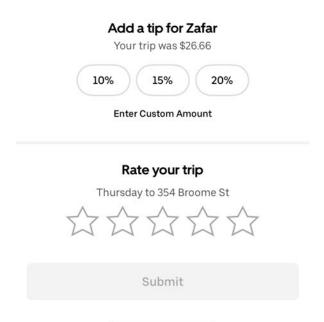
A trained agent from ADT can help you now. They will see your trip details and stay connected until you feel safe.

By continuing, you accept and agree to the Monitoring Terms.

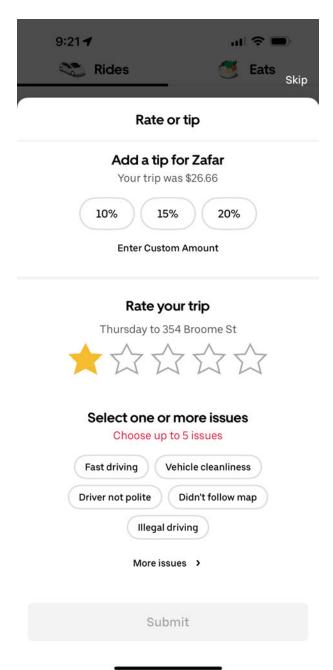


10. After the ride, the reporting options change. The Uber app prompts the user to both add a tip for the driver, Rate the trip, or skip this step before moving on. From a user experience basis this is a required step and is designed to ensure engagement. There is no option for further feedback on that main screen.

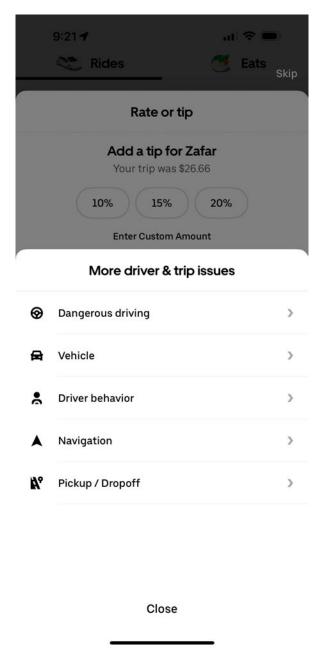




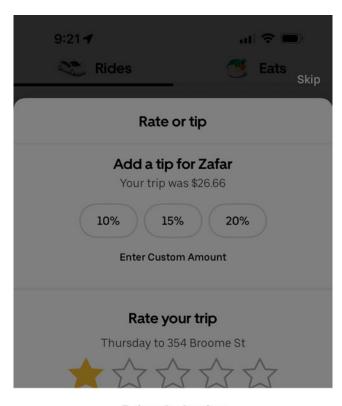
11. If a low-star trip rating is given, additional options or "feedback tags" appear for the user to report a reason for the low-star rating (none appear on a 5-star rating). None of the five listed menu options includes Sexual Violence.



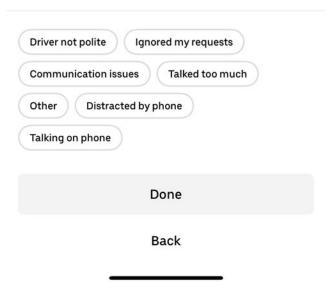
12. The "More issues" option presents a screen with five options but none of the options directly indicate Sexual Violence. "Driver behavior" is listed and the only option that logically might be selected to make such a report.



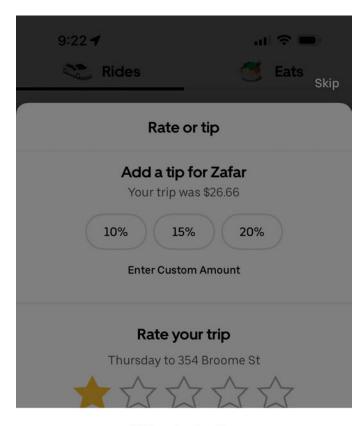
Selecting "Driver behavior" opens a screen with 7 options, none of which would 13. likely resonate with an individual attempting to report Sexual Violence. I attempted selecting "Other" to see if more options appeared.



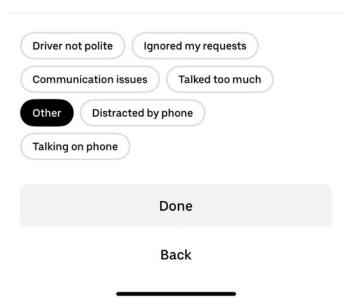
**Driver behavior** 



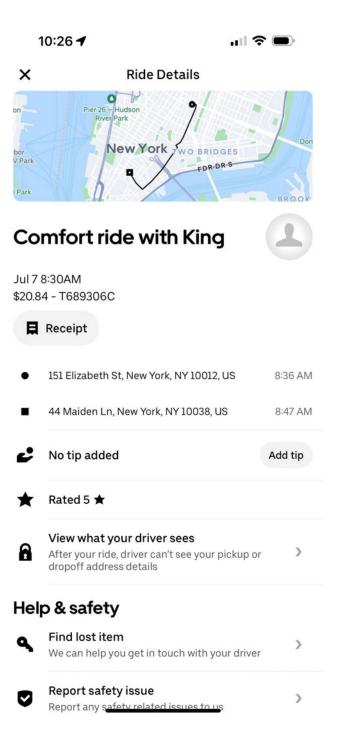
Selecting "Other" does not open a new screen and only provides a Done and Back 14. button.



**Driver behavior** 



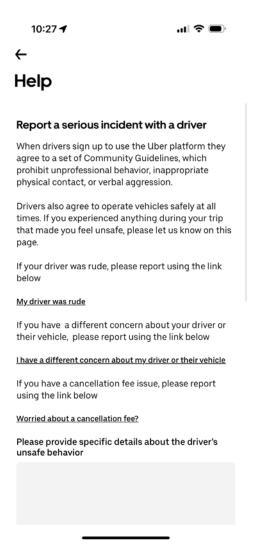
15. Another way to provide feedback is to click the Activity button on the bottom of the main page and select a ride in the past. After selecting that ride the screen shows a "Help & safety" section with a "Report safety issue" option to select.



16. Selecting that option brings the rider to a page called Safety. None of the options list any of the 21 terms in Uber's taxonomy for Sexual Assault or Sexual Misconduct listed in Footnote 10. Two options a rider trying to report Sexual Violence may choose are: "Report a serious incident with a driver," and "Safety Incident Reporting Line."



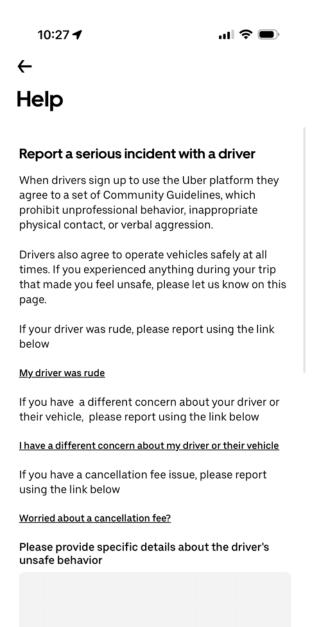
17. Selecting "Report a serious incident with a driver" opens a page that tells the user that drivers have agreed to a set of community guidelines and provides a link, "I have a different concern about my driver or the vehicle," as well as a free-form text box to describe the issue and to upload any documentation the user wants to submit. The box titled "Please provide specific details about the driver's unsafe behavior" does not offer a choice to report Sexual Violence (no mention of sexual assault, misconduct, or any standard terms for Sexual Violence), but may be used to make such a report.



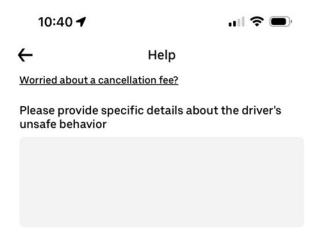
Selecting I have a different concern brings the user to a Help – Give Feedback page 18. where the user attempting to report Sexual Violence will likely choose the option "I want to report a safety issue."

10:39 🗸	
<b>←</b>	
Help	
a	
Give feedback	
You rode with IAKHE at Jun 25 2025 0	7:18 AM EST.
Select the kind of feedback you want to give	re .
I have positive feedback	0
I had an issue with the driver	0
Thad all issue with the driver	0
I had an issue with the vehicle	0
Thad all issue with the vernore	0
I want to report a safety issue	0
	0
Next	

19. However, should the rider select that option, Uber brings them back to the beginning of the reporting options, leaving the rider to enter a text comment and upload any documentation. No specific option to report Sexual Violence appeared during this reporting user experience.



20. To submit the comments, the rider must scroll down and see a "Supporting Information Disclaimer" telling them that submitting the documentation is "in compliance with all applicable legal requirements."



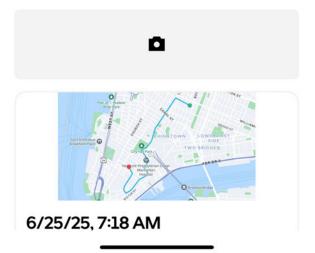
## **Supporting Information** Disclaimer

By submitting this information I confirm that it was created and/or obtained in compliance with all applicable legal requirements.

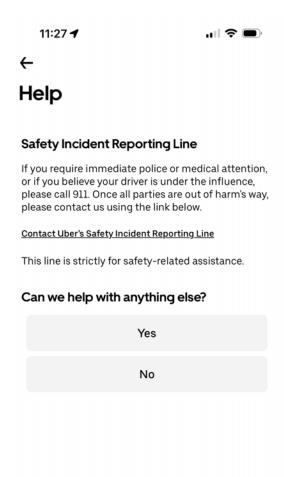
I have supporting information to submit to Uber as a part of this incident (ex: photos, audio, video, or documents to share)



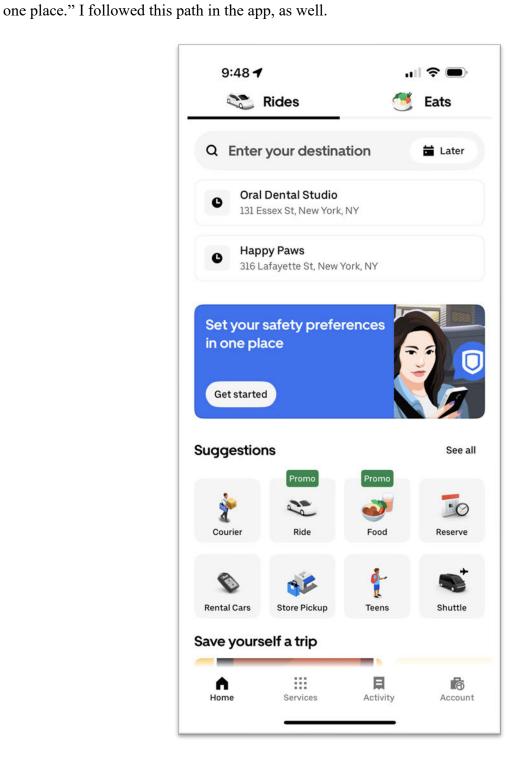
Please upload image files below



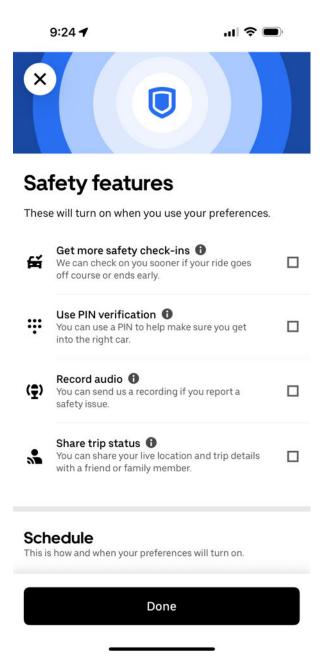
21. Referring to the options presented in ¶ 16, the rider had the option on that page of "Safety Incident Reporting Line." Selecting the reporting line option provides a contact link that tells the phone to dial a number, putting the rider in touch with a representative. It mentions driver "under the influence" or if the rider needs police or medical attention, but does not mention Sexual Violence, and only suggests clicking once all parties are out of harm's way.



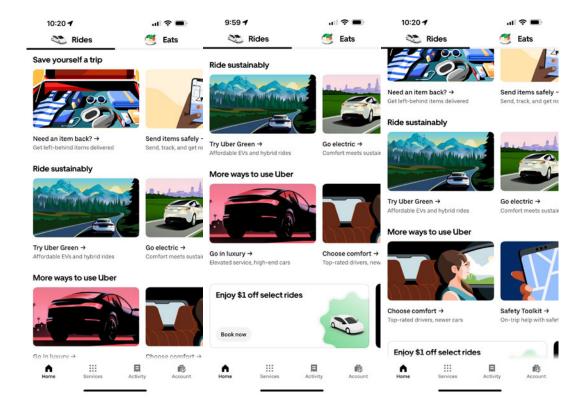
Case 3:23-md-03084-CRB



Selecting that "Get started" button opens a screen where a set of safety features is 23. presented that can be activated: a) "Get more safety check-ins," b) "Use pin verification," c) "Record audio," and d) "Share your trip status." This user journey does not provide a choice for reporting Sexual Violence, nor are the options obvious during a trip.



24. I explored further to find any other option that would resonate as a Sexual Violence reporting mechanism. After scrolling through each subsection, I found a "Safety Toolkit" option and explored how to report Sexual Violence.



25. Selecting the Safety Toolkit feature opens a screen that describes the blue shield appearing during each ride and provides details on the available functions. Again, this user journey flow does not give any option to report a sexual assault.



## Your one-stop shop for safety tools

Our Safety Toolkit is available on every ride you take with Uber. Just tap the blue safety shield on the map to access a variety of safety features.

Wherever you are, you can always contact emergency services and report a safety concern directly through the app. You can also add one or more loved ones as trusted contacts and receive automatic prompts to share your trip information with them in real time.

Add a trusted contact